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THE UNIVERSITY OF ALBERTA

AN IMPLEMENTATION AND EVALUATION OF THE PREP PROGRAM IN A RURAL COMMUNITY

by

© DEBORAH M. SHATZ

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS

IN

DEPARTMENT OF PHYSICAL EDUCATION

EDMONTON, ALBERTA
FALL, 1979

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled AN IMPLEMENTATION AND EVALUATION OF THE PREP PROGRAM IN A RURAL COMMUNITY submitted by DEBORAH M. SHATZ in partial fulfilment of the requirements for the degree of Master of Arts in Adapted Physical Education.

.....
Supervisor

.....

.....

Date. October 10/ 1979

DEDICATION

To parents and children:

learning, sharing, growing and playing together

ABSTRACT

The object of this research was to implement and evaluate the Preschool Play Program for mentally retarded children (PREP) in a rural community. Seven preschool aged developmentally handicapped children and their families were involved in the program for a period of 14 weeks. The parents of the children were trained to play an active role in upgrading the gross motor skills of their children. The Stake (1967) Countenance Model was used to evaluate the program as implemented.

In addition to subjective reports of parental satisfaction and community involvement, performance information was maintained on the motor skill progress of each child. The results demonstrated that the PREP Program can be effectively implemented as a family centred community based play program. It was concluded that the program was a valuable means for the provision of physical recreation services to young developmentally delayed children and their families living in rural communities. Recommendations for program revision, continuation and expansion were suggested.

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CHAPTER I

INTRODUCTION

Purpose of the Study

The main purpose of this study was to investigate the effectiveness of the Preschool Play Program (PREP) as a community based recreation program. Since the PREP Program had not before been implemented in a rural community a secondary purpose was to provide descriptive and evaluative information which would be useful in assessing, revising and expanding the PREP Program to meet the needs of a rural community.

The Problem

The Preschool Play Program (PREP) has been judged effective in upgrading the play skills and free play patterns of mentally retarded preschool aged children (Watkinson, 1977). The program includes an ordered set of over 35 criterion referenced gross motor play skills taught in a free play environment. Over the past five years the PREP Program has operated from a University playroom, using specially trained University students as teachers. Children attending the early education classes at the Winnefred Stewart School in Edmonton have been the clients of the program.

Recent literature indicates that there is a need to increase the dissemination of program materials and special

strategies designed to upgrade the skills of handicapped children (Baldwin and Fredericks, 1973; Heifetz, 1977). Since the PREP Program Model and materials have been successful, the program may be profitably extended to a rural community setting. However, the transition from a University based setting to a community based setting involves the consideration of factors which are specific to community program implementation. These factors were not a problem in the University setting given access to special schools for the developmentally disabled, trained students and facilities for program implementation.

To perform the process of transferring the PREP Program to a rural community an intended program design was developed on the basis of documented literature on the PREP Program (i.e. Watkinson, 1977), and on programs that have been developed for use with young handicapped children living in rural communities (i.e. Shearer and Shearer, 1976). Special consideration was given to program variables associated with community program implementation. Two program variables were identified as potential barriers to the transition process:

(a) a lack of adequate staffing, and

(b) a lack of community support.

It has been suggested that the direct involvement of parents can alleviate some of the problems associated with the staffing of educational programs for handicapped children living in rural communities (Lillie and Trohanis, 1976).

Special parent training programs have been found to effectively prepare parents to teach their handicapped children (Heifetz, 1977; Shearer and Shearer, 1976). Therefore, a parent training component was added to the design for implementing the PREP Program in a rural community, with the intention of having the parents serve as the principle staff members of the program.

Literature on the recreation integration process stresses the importance of obtaining the direct support and involvement of the municipal recreation department and advocate agencies when implementing special recreation programs for individuals with handicapping conditions (Arsenault, 1978; Hutchison and Lord, 1975). Community support could be helpful in the identification of a facility and program participants as well as for providing an opportunity for program continuation if desired. Therefore, a community involvement component was added to the intended program design for the implementation of the PREP Program in a rural community.

Statement of the Problem

The addition of the parent training/involvement component and the community awareness component to the PREP Program necessitated modification in both the implementation and the evaluation of the program. Therefore, the program was renamed the PREP Outreach Program and three areas of concern were isolated for evaluative purposes:

1. Given a training program and assistance in the program implementation phase, can the parent use the PREP Program Model and criterion referenced materials? Will they enjoy their role as "teachers" and be committed to the continuation of the PREP Outreach Program?
2. Can the PREP Program effectively upgrade the play skills of preschool aged mentally retarded children living in a rural community with parents as instructors of their own children?
3. Can the implementation of the PREP Outreach Program have a positive effect on the level of awareness within the community with respect to the special needs of the children and their families?

CHAPTER II

PROGRAM EVALUATION

Introduction

PREP is a preschool play program that represents a uniquely effective method for upgrading the gross motor play skills of young mentally retarded children (Watkinson, 1977). The program combines a structured technique of individualized criterion referenced instruction with freedom of choice in a free play environment. This ongoing program development project was initiated by the Physical Education Department at a University of Alberta playroom in 1974. Since then, the PREP Program has been operating in the following manner:

1. as a research project for the design, implementation and evaluation of instructional materials and techniques,

2. as a demonstration project for the instruction of motor play skills to the preschool aged children attending the Winnifred Stewart School in Edmonton, and

3. as a practicum project for the training of professionals, para-professionals and undergraduate students studying adapted physical education and other related disciplines.

The PREP Program has recently been evaluated and modified with respect to its applicability for severely mentally retarded children (Friesen, in press; Wall,

et al., 1978). The Program staff is currently involved in a pilot study to evaluate the effectiveness of the PREP Program Model and materials for use with young moderately mentally retarded students attending the public and separate school systems in the City of Edmonton. Under the above conditions many factors which are basic to program development and implementation in rural communities have neither been identified nor seriously considered. There are two major purposes identified for the present study. The first is to evaluate the extent to which the PREP Program Model is effective in a rural community with parents as instructors of their own mentally retarded children. The second purpose is to provide information which decision makers will find useful in assessing, revising and expanding the PREP Program to meet the needs of an outreach setting.

Alkin (1969) defines evaluation as the process of ascertaining the decision areas of concern, selecting appropriate information, and collecting and analyzing information in order to report summary data useful to decision makers in selecting among alternatives (p. 2). Huberty and Swan (1977) explain that the evaluative procedures of many educational programs are based on progress records and pre-test/post-test comparative results using standardized measures of analysis. Although pupil progress is an important factor in an evaluation scheme, in isolation it would provide an insufficient amount

of information upon which to base decisions regarding future directions of the developing PREP Outreach Program.

Scriven (1972) recommends that developing programs be evaluated with respect to both the extent to which the program has been implemented as prescribed and the extent to which students are progressing towards the desired outcomes. Cronbach (1963) stresses that evaluation should show not only what the effects of a curriculum are, but also how the effects are achieved and what specific parameters influence their achievement. In support of the above beliefs the Stake Countenance Model (1967) was used as the conceptual framework for the evaluation of the PREP Outreach Program.

The Stake Model of Program Evaluation

Robert Stake (1967) formulated a model of evaluation which focuses on the examination of the factors and variables that contribute to educational outcomes. The model, indicated in Figure 1, distinguishes between two categories of information which are useful in the evaluation of a developing program. One category separates information which is descriptive from information which is judgemental in nature. The purpose of the Descriptive Matrix is to collect and compare information specifying what is intended and what is observed. The function of the Judgement Matrix is to compare the observed information to an operationalized set of standards so that a judgement concerning the merit of the

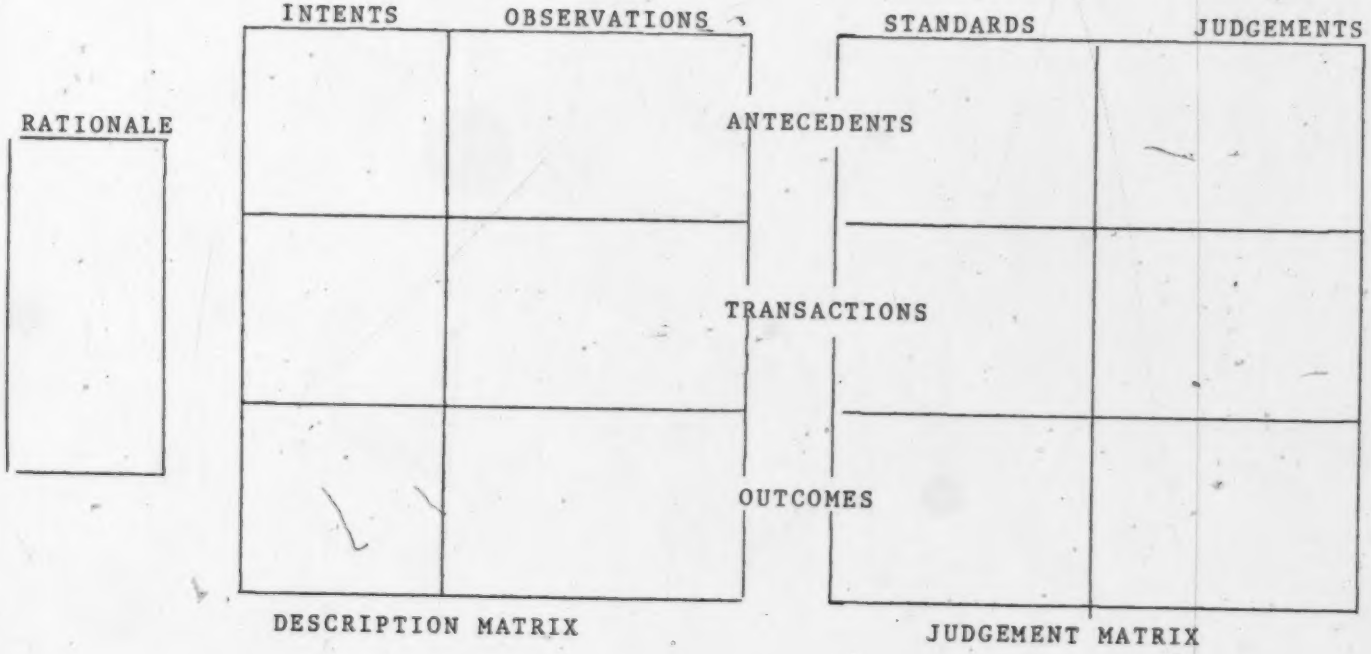

Figure 1. The Stake (1967) Model of Program Evaluation

program and its components can be made.

The second category classifies information as antecedent, transaction or outcome. Antecedent information is defined as the description and judgement of any condition existing prior to teaching and learning which may relate to program outcomes. Transactions are descriptions and judgements of the procedures used during the implementation phase of the program. Outcomes are considered to be the description and judgement of the consequences of the program - both immediate and long term.

The Stake (1967) Countenance Model of Evaluation was selected as the framework for the evaluation of the PREP Outreach Program in the hopes of identifying information which would prove helpful in assessing the merit of the PREP Program in a rural community and in the identification of major program variables which had an effect on various aspects of the program. Stake's model met the evaluative needs of this study in that it:

1. requires that a rationale for program implementation be stated,

2. provides a systematic basis for the description of program components, both intended and observed,

3. encourages the consideration of logical and empirical contingencies among antecedent transaction and outcome information,

4. allows for the evaluation of 3 levels of program information with respect to the degree and nature of

relationships between intents and observations,

5. is an eclectic framework for the evaluation of program components thereby allowing the evaluator the freedom to choose instruments of analysis which will generate meaningful data, and

6. provides both the summative and formative basis for making judgements with respect to the merit of the overall program.

Statement of Rationale

Stake (1967) suggests that the initial step in program evaluation should be the statement of a rationale. According to Stake the rationale should indicate the philosophic background and the basic purposes of the program. The rationale should provide a basis for evaluating the antecedent, transaction and outcome intents.

A comprehensive rationale for the implementation of the PREP Outreach Program is provided in Chapter 3 of this study. The rationale was stated to serve as a guideline for the development of the intended program variables and as an aid to the identification of factors which had to be taken into consideration when implementing the PREP Program in a rural community.

Complete Description

A vital aspect of the Stake model is the complete description of intended and observed program components as it facilitates the analysis of factors which may contribute to

the success or failure of program outcomes (Stake, 1967). A complete description of intended and observed antecedent and transaction information would be particularly useful in carrying out decisions with regard to program replication, revision or expansion.

The model also requires that a predetermined set of standards be operationally described for each of the three levels of program information. In their discussion of educational standards MacKay and Maguire (1971) indicate that in most situations there are no ready made sets of standards to apply to the program descriptions; more often than not they must be estimated by the evaluator (p. 32). The predetermined standards of excellence stated in the present study were based where possible, on criterion that have been documented by the PREP Program. In situations where this was not possible standards were developed by the investigator.

Processing Descriptive Information

The Stake Model of Evaluation requires that the evaluator examine antecedent, transaction and outcome information with respect to the degree and nature of relationship of program variables between and within intents and observations. The analysis of contingencies among program variables and the analysis of congruence between program variables are symbolized in Figure 2.

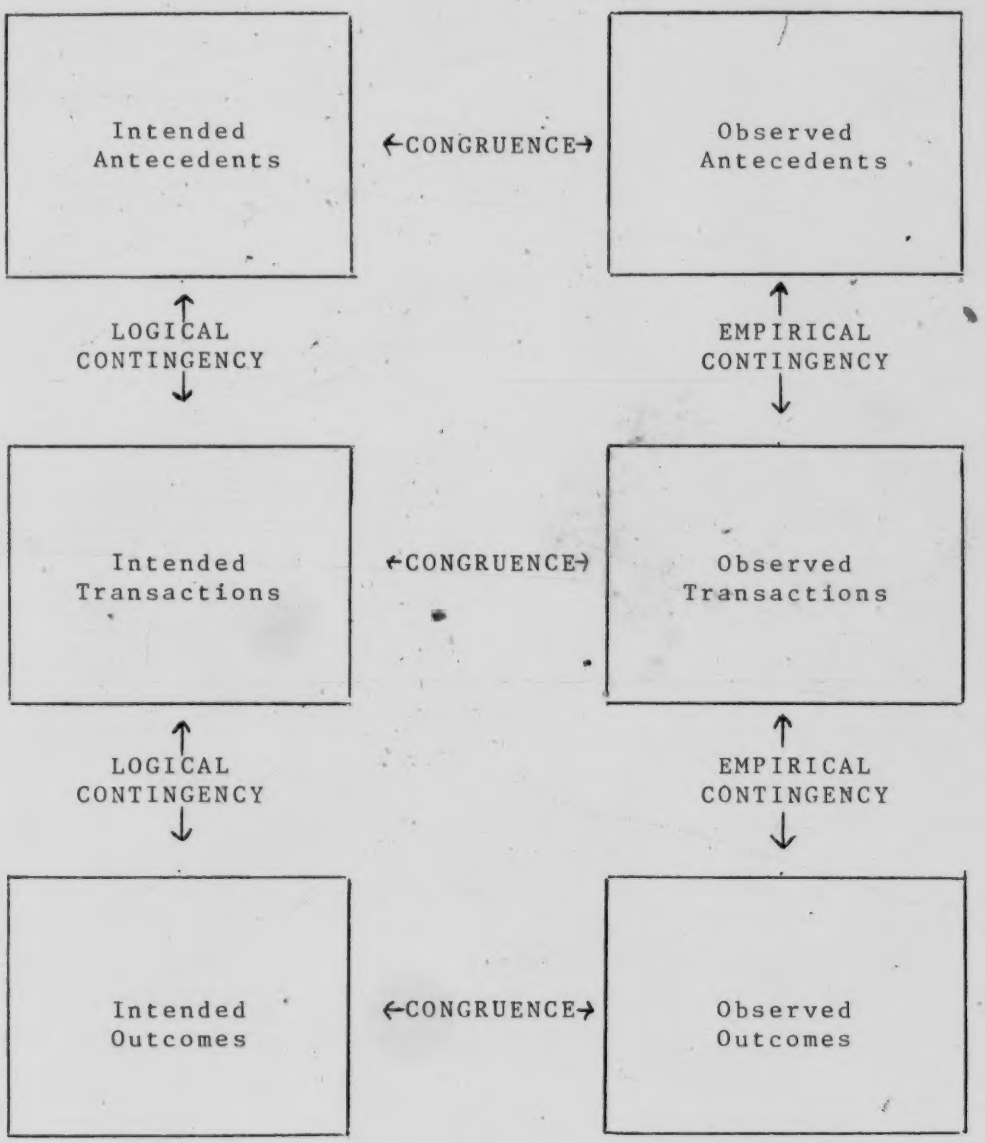

Figure 2. Processing of Descriptive Data (Stake, 1967).

Analysis of Congruence

Important evaluative information can be obtained by determining whether or not a program is being implemented according to design. Stake suggests that an analysis of congruence be completed at each stage of program development by repeated comparisons of what was intended and what is observed. If the program is not being implemented according to the intended design, modifications could be made in either the design or in the operation of the observed variable.

Provus (1972) recommends that discrepancies between design and operation be reduced at each stage of program development and operation before proceeding to the next stage. In the present study, the careful analysis of congruence assisted in the isolation of specific breakdowns so that recommendations for improvements could be made and implemented.

Contingency Analysis

As mentioned earlier the Statement of Rationale is one basis for the evaluation of intents. According to Stake, this type of evaluation can be extended to involve an analysis of the nature of the relationships among intended antecedents, transactions and outcomes. This would involve examining whether or not there is a logical connection between conditions, events and results. In the present study the analysis of logical contingencies at

the level of intent was based on related research from the PREP Program and other programs designed for young mentally retarded children and their families (e.g. Shearer and Shearer, 1972).

At the level of observation, a contingency analysis involves the demonstration of an empirical connection among antecedent, transaction and outcome information. Provus (1972) suggests that empirical evidence be provided through the continous measurements of transaction and outcome variables as a function of time. According to Provus, the first stage in the establishment of an empirical contingency is the assessment of the initial effects of program treatment so that treatment adjustments may be made. Once the program effects have stabilized an experimental or quasi-experimental design should be used to determine whether or not the program has met its objectives.

Making Judgements

The purpose of judgement is to weigh the importance of various standards, to measure the intents and observations against the significant standards and to combine measures into a useful evaluation of the merit of the program (MacKay and Maguire, 1971, p. 32). Stake suggests that judgements regarding the characteristics of a program be made with respect to both absolute standards as reflected by personal judgements and relative standards as reflected

by characteristics of alternate programs.

As mentioned earlier the standards of excellence upon which the PREP Outreach Program was judged were based primarily on relative comparisons with criteria that had been documented as standards for the PREP Program. Where criterion were not available personal judgements based on absolute standards were made. Judgements of the congruence between intents and observations were made at each level (antecedent, transaction and outcome) according to Stake's (1967) model. Where incongruences were found, they were noted and decisions were made regarding in what ways the discrepancies between observations and intents or standards should be reduced. The instruments used to compare intents with observations included:

a. the single subject basic time series design, visual analysis (Bijou, et al., 1969),

b. questionnaires and interview schedules (Kerlinger, 1973), and

c. attendance records.

In addition to congruency information, judgements were based on the extent to which empirical contingencies among observed program variables could be demonstrated. Where program effects were stabilized, the single subject basic time-series design (Jones, Vaught and Weinrott, 1977) was used to graphically analyze the changes in level and changes in trend of the progress records. In situations where this was not possible, contingency judgements were based

on the visual analysis of graphic performance information, supplemented with information obtained through interview schedules, questionnaires and attendance records.

CHAPTER III

STATEMENT OF RATIONALE

General Review

Play is considered to be a fundamental part of childhood learning. There are many different kinds of play, many definitions of play and countless theories dealing with the effect of childhood play on human development (Ellis and Scholtz, 1978; Piaget, 1951; Wehman, 1975; Weninger, 1973). One crucial aspect to which all play theorists concur is that play experiences make a valuable contribution to the developing child. They act as a vehicle through which a good proportion of the child's learning occurs and play behaviors serve to reflect the child's cognitive and motor competencies (Piaget, 1951). It is through play activities that the young child practices and masters the basic movement patterns which are generally acquired during the period of birth to six years (Bayley, 1935; Bruner, 1973; Gesell, 1940; Shirley, 1931). For these reasons it has been suggested that a child exhibiting motor difficulties in the preschool years merits both concern and more importantly instructional intervention (Hardiman, et al., 1975; Watkinson, 1976).

Comparative research indicates that the motor play skills of young mentally retarded children are markedly inferior to those of their non-retarded peers. A developmental lag in the motor proficiency of mentally

retarded youngsters is often manifest in infancy (Carr, 1970), generally continues throughout the formative years (Bruininks, 1975; Stein, 1965) and can become the equivalent of two to four years by the age of twelve (Francis and Rarick, 1960; Rarick and Widdop, 1970). General observation and recent empirical evidence indicate that the play behavior of mentally retarded youngsters is deficient both in terms of the amount of skill and the amount of time spent actively involved in free play (Linford, et al., 1971; Noble, 1975; Wall, 1974).

The comparative research in motor performance has led to the recognition of a need for the development of programs that foster the motor skill development of young mentally retarded children so that they are better able to successfully involve themselves in play activities. The literature in the area of program development stresses the need for the implementation of specialized instructional strategies that are based on the learning characteristics of the mentally retarded (Lawson, 1978). Cognitive research has indicated that individuals who are mentally retarded have considerable difficulty identifying and then attending to the salient features of a given task (Das, 1978). Cognitive deficiencies have also been identified in the short term memory rehearsal processes (Brown, 1974) and the feedback mechanisms (Levy, 1974) of the mentally retarded. Motor performance literature has found these processes to be critical in the acquisition of motor skills (Annett, 1969; Gentile, 1972;

Keele, 1973). It has been suggested that these factors be taken into consideration in planning gross-motor instructional programs for mentally retarded invididuals (Das, 1978; Wall, 1976).

Application of the above research and further literature on the wide individual differences observed in the motor performances of mentally retarded children (Noble, 1975; Wall, 1974) indicates that individualized intervention techniques should be employed when developing and implementing gross motor instructional programs. Criterion-referenced instruction using task analytic methods has been successfully employed in teaching individuals who are mentally retarded skills from a broad range of performance areas (Baine, 1978) involving the cognitive, affective, and perceptual-motor domains (Fredericks, et al., 1975 Kysela, et al., 1976; Wehman, 1977; Wessel, 1976).

Task analyzed instructional sequences have been found to be effective in ameliorating many of the learning problems which are symptomatic of mental retardation. Through the use of small progressive steps these instructional sequences lead to skill acquisition and encourage a large amount of practice and a high rate of learner success. Task analysis provides the instructor with continuous, specific and objective feedback with which she can evaluate the child's performance, the content of the progression and her effectiveness in the delivery of feedback information. At the same time the learner is accomodated with a

logical progression for meeting an achieveable goal. One program that employs individualized instruction to teach moderately mentally retarded children a number of task-analyzed gross motor skills is the Preschool Play Program at the University of Alberta (Watkinson, 1976).

The PREP Program

The Preschool Play Program for moderately mentally retarded children, PREP, is an ongoing program development project that was initiated under the direction of Dr. Patricia Austin in 1974. Since that time, the program has been operating at the University of Alberta in co-operation with the Winnifred Stewart School in Edmonton. The purpose of the PREP Program is to develop special program materials and instructional methods designed to upgrade the gross-motor play skills of preschool aged moderately mentally retarded children (Wall, 1978).

The goal of the PREP Program is to learn to play. The PREP curriculum includes an ordered set of over 35 task analyzed motor skills that can be used by preschoolers in a number of different play environments. Each instructional sequence consists of criterion referenced performance objectives termed task steps which specify increasingly skillful behaviors on a given motor task (Watkinson and Wall, 1977).

The focus of the program involves the use of task analytic methods and individualized instructional techniques

to upgrade the motor skills of mentally retarded pre-schoolers as well as to increase the amount of purposeful play behavior exhibited during free play time.

The objectives, framework and curriculum materials for the implementation of the PREP Program are well documented (Wall and Watkinson, 1978; Watkinson, 1975; 1976; 1979; Watkinson and Wall, 1977). The PREP Program Model used for the individual instruction of the gross motor skills is illustrated in Figure 3 (PREP Program, 1979).

Watkinson (1977) conducted a study to investigate the effects of an eight month PREP Program on the free play patterns and play skills of moderately mentally retarded preschool age children. Using a sample of 21 children between the ages of four and seven years, she found the PREP Program to be successful in both upgrading the degree of skill and in increasing the amount of time the children spent engaged in purposeful play.

Parent Involvement

Recently a problem has been identified with respect to the accessability of services to retarded individuals; because of limited dissemination of program materials and research findings, the potential of these services has largely been unrealized (Heifetz, 1977). With increasing public acceptance of the underlying concepts of normalization and integration (described by Wolfensberger, 1972), researchers are becoming aware of the need to "close the

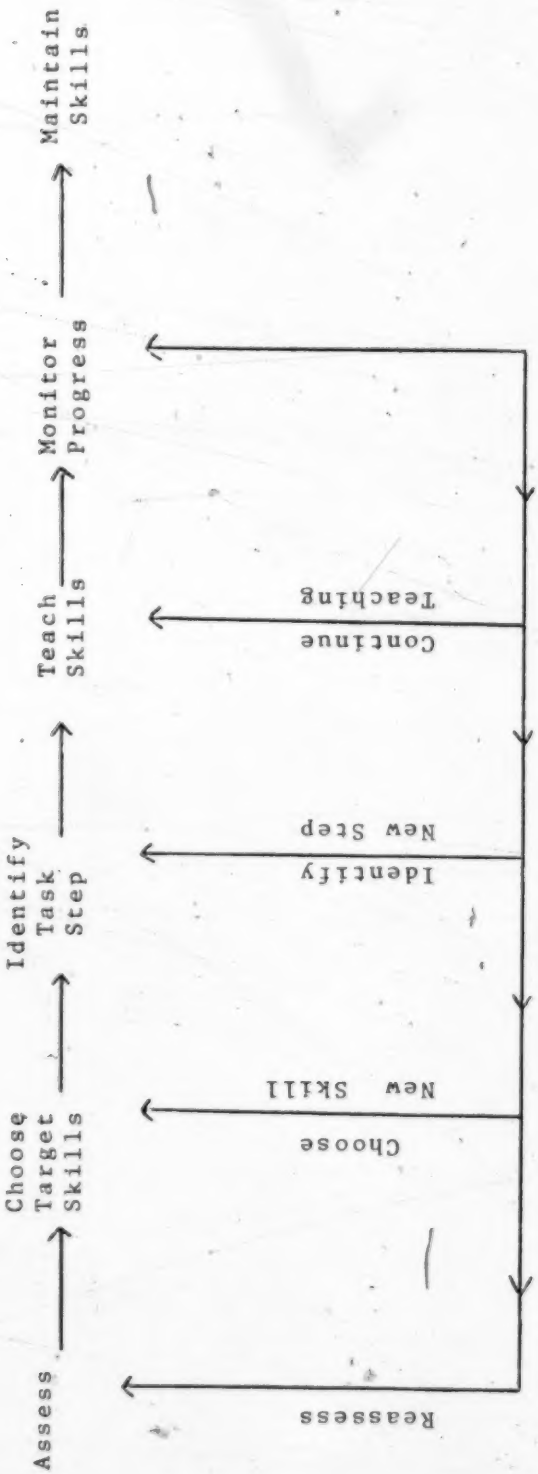

Figure 3. The PREP Program Model.

gap" between research and practice in instructional programming with the mentally retarded. Baldwin, Fredericks and Brodsky (1973) explain how they came to recognize this problem.

> We found ourselves operating professionally in two different areas. In the first we designed and implemented research projects utilizing rather sophisticated and powerful methods of teaching retarded children. This research was usually done in university clinics, institution settings and so forth. On the other hand, we were often involved in the training of parents of retarded children. On nearly every occasion we were confronted with the finding that parents and the public in general are completely unaware of techniques now available for teaching the retarded. There seemed to be an enormous "information gap" between the results of research studies (usually written in language too technical for laymen) and the knowledge or application of these results by parents of retarded children (p. ix).

Heifetz and Baldwin agree that the major contributing factors to this problem are the vast shortages of professionally trained individuals and the wide use of professional jargon in published materials. Although these problems are very much a reality, they are an insufficient excuse for witholding services from the very individuals they were designed to serve. For this reason, viable alternatives to the use of professionals should be recognized; furthermore they should be explored. In the past decade, the involvement of parents and paraprofessionals has increasingly become acknowledged as successful means of improving systems of service delivery

to the handicapped (Levitt and Cohen, 1976; Shortinghuis and Frohman, 1974).

The direct involvement of parents can alleviate much of the pressure caused by the shortage of professionals in the area of instructional programming for young children who are mentally retarded. However, this is merely one of many advantages for developing effective parent involvement programs. The parent is the child's first and potentially most consistent teacher (Lillie and Trohanis, 1976). In the early years a large proportion of learning takes place in the home; the parent has the most impact on what and how the child learns in this environment. Parents of a handicapped child will have more responsibility for their child over a significantly longer period of time than parents of a "normal" child. They need parenting and teaching skills that parents of a "normal" child need not necessarily possess (Shearer and Shearer, 1977). Not only has a need for parental involvement been identified, but experience has shown that parents of handicapped children desperately want to be a part of their child's education (Baldwin and Fredericks, 1973; Jeffrey, McConkey and Hewson, 1977).

Research is now indicating that the involvement of a child's family is critical for the success of any intervention program (Bronfebrenner, 1974). However, involvement must be accompanied with the training that would be necessary for the parents to assume an effective role in

their child's education. The training of parents will help to optimize the home as a learning environment; as parents acquire the skills that are needed to instruct their children, they can make use of "teachable moments" at home. This will not only provide the child with an abundance of practice, but it will help to ensure that the benefits of intervention are enduring in nature (Tjossem, 1976). The combination of direct involvement and training will also add to the commitment of a parent to the child's education. Shearer and Shearer (1977) maintain that if knowledgeable about the program their child is receiving, parents can be the best advocates for program continuation and extension.

It is for these reasons that in the past decade there has been a definite trend towards a family centred approach to instructional programming for young handicapped children. An increasing number of demonstration projects are now expanding their services to facilitate individuals living in rural communities (Hayden and Dmitriev, 1975; Karnes and Zehrbach, 1977; Kysela, 1978). With this direction in mind, the PREP Directors applied for and received a grant from the Alberta Parks and Recreation to implement and evaluate a PREP Outreach Program in a rural region of Alberta, using parents as instructors of their own children.

Systems of Service Delivery

There are basically four critical dimensions to

consider in a family-centred approach to program development (Karnes and Zehrbach, 1977). The first dimension discussed by Dr. Karnes and her colleague is the nature of the population to be served. The geographic area to be included and the theoretical basis upon which the program is to operate are the second and third dimensions; the fourth is the system of delivery to be employed with respect to both the parents and the child. The type of service delivery system chosen for a program should largely be a function of the program demands of the first three dimensions. Other factors which must also be taken into consideration are cost, availability of facilities, amount of staff available and degree of parental time commitment.

Lillie and Trohanis (1976) distinguish between three general models of service delivery that have been used successfully in various family centred programs servicing young handicapped children: the home-based approach, the centre-based approach and the home-centre approach. Each of these methods encompasses a distinct strategy for parent training and program implementation. In the following section these methods will be outlined and an example of each technique will be summarized.

Home-based

The Portage Project has been described as one example of a family-centred program using the home-based approach

to service delivery (Shearer and Shearer, 1976; Shearer and Shearer, 1977; Shearer, 1976). The nature of the population served by the Portage Project is young children with any type or degree of handicapping condition and at least one parent or caretaker. The geographic area included is 23 school districts in south-central Wisconsin. The philosophic basis is to provide quality programming to children who would otherwise not receive services and to meet their special educational needs by increasing training of the parents.

The system of delivery employed by the Directors of the Portage Project is home-based. All instruction takes place in the home and is provided by the child's parents. A trained home teacher, assigned to each child and family, visits each of 15 families one day per week for 1.5 hours. An individualized, task analyzed curriculum is prescribed weekly, based on the assessment of each child's behaviors in a number of performance areas including language, self-help, cognitive, motor and socialization skills. During the visitation the home-teacher introduces the prescribed activity to the child's caretaker or parent and models the technique to be used for instruction. For the duration of the week the parents implement the actual teaching process. The following week the home teacher returns and records what progress the child has made.

The Portage Project typifies the use of the home-based approach to family centred programming (Karnes and Zehrbach,

1977). The nature of the population is generally preschool aged children from a rural and sparsely populated region. Children are referred to the program from either the parents or local generic services. The parent training procedure relies exclusively on demonstrations in the home environment. The parent is responsible for daily recording of progress, while the home teacher records on a weekly basis. Shearer explains that the rationale for implementing an exclusively home-based program was based on the following factors:

1. The nature of the geographical area was expansive and the cost and responsibility of transporting very young handicapped children great distances was prohibitive.

2. The variance in chronological ages, level of functioning and handicapping conditions precluded the possibility of establishing classroom programs when several children could be identified within a common area.

3. The opportunity for extensive parent involvement would be limited in a classroom setting due to the geographical and psychological distances between home and school (Shearer, 1976).

Centre-based

The second model of service delivery is the centre-based approach in which parent training and program implementation is held exclusively at a centre, clinic or school. The experimental Education Unit School in the

Child Development and Mental Retardation Centre at the University of Washington provides instructional programming for handicapped children from birth to eighteen years and their families (Hayden, 1976; Hayden and Dmitriev, 1975; Hayden and Haring, 1976). One of the service aspects of the school is the Unit's Model Preschool Centre for handicapped children. This centre-based program annually services approximately 200 children from zero to six years of age who have a wide variety of handicapping conditions.

Hayden and her colleagues explain that the preschool centre offers several types of services including a segregated preschool program for children having Down's Syndrome. Programming for these children encompasses an infant learning program for children from birth to eighteen months (which will be referred to in a later section of this review) and three levels of preschool classes for children ranging from nineteen months to three years, three to four years and four to five years of age. A kindergarten program services children in the five to six year age range. Children are referred to the centre by a variety of support services such as agencies, physicians or clinics; or parents may apply for admission directly to the Model Preschool Centre. The primary program emphasis is to bring each child's developmental patterns as close as possible to sequential developmental norms and to prepare the children for placement in regular or special educational

programs in their home communities (Hayden and Haring, 1976). The performance areas included in the Model Preschool curriculum are motor, cognitive, communication, social and self-help skills.

Hayden and Dmitriev (1975) note that the parent training aspect of the program is provided on an individualized basis. Parents of enrolled children are invited to visit the school with their child for an initial private conference at which time the child is assessed and the program requirements are outlined. At least one parent (usually the mother) attends the program on a weekly basis and is instructed and involved in all phases of program implementation; they observe, collect data, assist the teacher in instruction and preparation of materials and attend staff meetings. Individual parent-teacher conferences are held four times during the school year and a group meeting of parents is also scheduled for each quarter term. Telephone contact is both encouraged and maintained on a regular basis. In addition to their work at the centre, the parents are frequently invited to speak to university students in related fields and have joined to form a "Parent to Parent" group whereby immediate support and advice is provided to parents of new born handicapped children or newcomers to the area (Hayden, 1976).

Home-Centre Approach

The third method of service delivery, the home-centre

model, is advocated by the Teaching Research Infant and Child Centre and is termed by Fredericks and his associates the Lunch-Box Data System (Fredericks, et al., 1975). For this approach to family-based programming Fredericks explains that the parents conduct instruction at home which is similar to that being conducted in the school. The success of this model is completely dependent upon a systematic method of daily communication between home and school.

The nature of the population serviced and the geographic area included by the Teaching Research Infant and Child Centre are multiply handicapped and culturally deprived preschoolers living in Monmouth, Oregon. The theoretical basis of the Centre is to provide efficient individual programming in a variety of performance areas including self-help, motor, communication, cognitive and socialization skills.

The parents of each child attending the centre are approached to conduct at least one home training program. A systematic schedule is followed in providing parents with the training that is necessary to instruct their children at home. Fredericks indicates that initially a group meeting is held to provide the parents with an introduction to and rationale for the home training process. Individual conferences are then arranged to determine which program the parent desires to conduct at home. The parent is encouraged to select a program in which the staff member

feels there will be a high probability of success. Once an appropriate program has been identified the teacher outlines the task-analyzed sequence of the program and then models the cueing and manipulative techniques for the parent. The attention of the parent is focused on the delivery of cues and prompts, the expected performances, the delivery of consequences and the method of recording.

After a complete demonstration has been provided a number of times, the teacher requests that the parent try it with her child. The initial attempts of the parent are frequently videotaped; feedback is then provided from the teacher and the playback facilitates the understanding of any corrections in technique. Fredericks stresses that the teachers emphasize the positive aspects of the parent's instructional performance. Once the parent has demonstrated a complete understanding of the methods and has done so a number of times, the parent is familiarized with the criterion for advancement through the task sequence.

Each program that is prescribed for home training is also prescribed for the centre. Daily progress records are exchanged between parent and teacher so that an optimal level of instruction can be maintained in both environments. If a parent is experiencing difficulty or little progress is being made, the teacher is available for individual conferences at which time the technique may be once again modelled and problems in delivery can be discussed. Periodic consultations are encouraged whether problems

arise or not and often serve as maintenance checks on the quality of the home training program. Group meetings are also held on a regular basis so that parents have the opportunity to become acquainted and share home teaching experiences. These parent training strategies are typical of other home-centre programs one of which is the infant learning class at the University of Washington's Model Unit Preschool (Hayden and Dmitriev, 1975).

Fredericks also explains that the Lunch-Box Data System does not meet with the individual needs and interests of all parents and that individual needs ought to be taken into consideration when providing services for parent involvement. He discusses two alternate methods that are employed by the Teaching Research Infant and Child Centre: the Modified Lunch-Box and the parent as a volunteer approach. The former approach refers to a situation where the parent desires to instruct the child at home in a program that is not covered at the centre (i.e. behavior problems specific to the home). The volunteer approach involves the parent coming to the centre on a regular basis and assisting in the teaching process.

The PREP Outreach Program

The centre-based approach was selected for the implementation of the PREP Program as a family-centered outreach project. This model of service delivery was chosen because it best meets the program demands of the PREP

Demonstration Program at the University of Alberta. The purpose of the PREP Program is to upgrade the gross motor skills of young mentally retarded children within a culturally normative play environment. For the preschool aged child the culturally normative use of leisure time involves a wide range of play activities in environments such as kindergarten programs, play grounds, recreation programs, the backyard and at home. The centre-based model facilitates upgrading the skills in an atmosphere which is typical of most recreation and preschool educational programs.

This approach provides the children with the opportunity to play together, to share and to develop other basic socialization skills. It also facilitates the parents' needs of bringing the children to a common centre where they can interact, share experiences and provide each other with support and advice. Furthermore, the centre-based model meets the group needs of the parents participating in the project; the program is conducted in a playroom that is centrally located within the rural community. This alleviates any major transportation problems and helps the parents feel as though they are part of a community with services provided for them and their children within the community. In order to maximize participation, the program is extended to facilitate siblings of the "target children". In this manner not only are baby-sitting problems solved, but the program

becomes family-centred in the true meaning of the word.

The centre approach also meets the individual needs of both the parents and the children. The children receive individualized instruction of motor skills that have been individually assessed and prescribed. The parents, as a group, attend regular training workshops and are individually assisted at the centre. There is no pressure placed on the parents to work with the child at home, yet parents wishing to continue at home have acquired the instructional skills necessary to do so; advice or support can be obtained at the centre or by telephone conversation.

A Step Towards Recreation Integration

> To ensure, consistent with the principles of normalization and integration, that all developmentally handicapped and mentally retarded individuals have the right and freedom of choice to participate in organized and individual use of leisure time (Alberta Association for the Mentally Retarded, 1978).

The above policy statement relevant to recreation and culture clearly specifies the importance of providing recreational opportunities to the developmentally handicapped, in a manner that will foster the integration process. For the implementation of this policy the Association had identified a basic need for the development of recreation programs which are committed to this philosophy.

The principle of normalization and its application to recreation, stresses the need for providing a continuum

of recreation experiences which are as culturally-normative as possible, and meet the needs and interests of the individual (Spinak, 1975). For the preschool aged child, the use of leisure time includes a range of activities involving basic motor skills such as riding a tricycle, swinging, throwing and catching a ball, running and climbing. The PREP Program focuses on teaching pre-school aged mentally retarded children these and other basic motor skills that can be used in a variety of play settings. By combining individualized instruction at well chosen moments with free play time, the PREP Program encourages the children to use the skills they learn within a culturally-normative play environment.

Recent research suggests that the three phases of recreation integration process are Upgrade, Educate and Integrate (Hutchison and Lord, 1975). The first phase is to upgrade the recreational skills of the individual to help minimize the differences between persons with and without disabilities. The second phase of recreation integration is considered to be the education of all persons involved in the integration process, including advocates in related associations, recreation staff and volunteers and parents. When working with developmentally handicapped children the importance of parental education and involvement is clearly documented in recent recreation literature (National Institute on Mental Retardation, 1978; Sugiyama, 1978). Arsenault (1978) emphasizes the need to solicit the

involvement of the municipal recreation board so that the recreation needs of the community members who are mentally retarded can be made visible.

Recent literature suggests that recreation integration can be viewed as a continuum of services as illustrated in Figure (Simard and Wall, 1979). The PREP Outreach Program is regarded as an instructional upgrading program in a public setting, operating at phase 2 of the recreation integration process. An important component objective of the PREP Outreach Program is the education and preparation of parents, recreation staff and advocates within the community through the use of training seminars and an opportunity to become directly involved in the implementation of the program. In this manner the PREP Outreach Program is encouraging active participation and a committment to the recreation integration process at the community level.

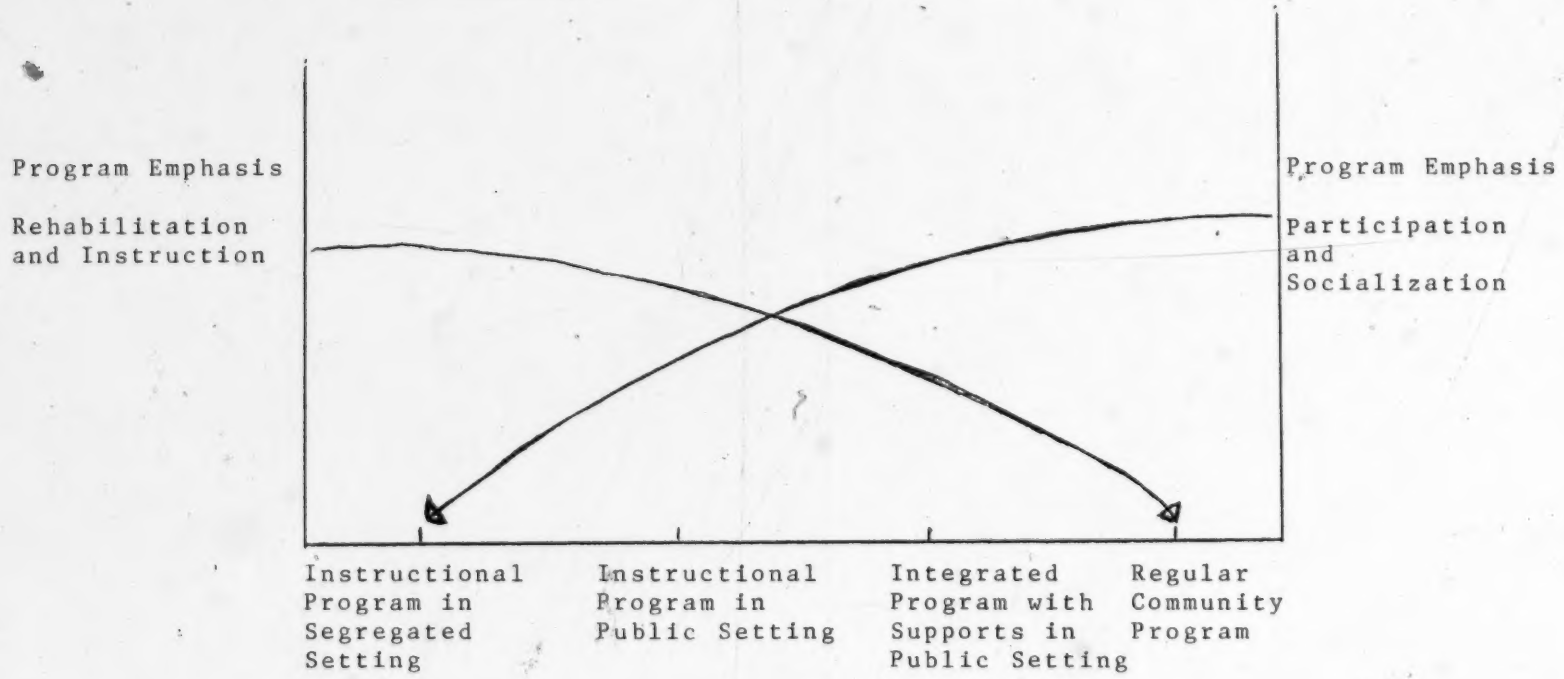

Figure 4. An Adapted Physical Activity Delivery System Model (Simard and Wall, 1979).

CHAPTER IV

INTENTS, STANDARDS AND METHODS

Introduction

The method of evaluation used in the present study was in accordance with the Stake (1967) Countenance Model. In the first segment of this chapter the statements of intent and a predetermined set of standards are presented. Three distinct levels of intended program variables are discussed including antecedents, transactions and outcomes. A corresponding standard is provided adjacent to each variable. Where appropriate, the source of the standard is referenced and the instruments for obtaining the information are listed. In situations where a standard was not available an estimated standard is provided. In the second segment of this chapter the specific methods used for obtaining information are comprehensively discussed.

Statement of Intents and Standards

1. Antecedents

Intents	Standards
1.1 Location will be a rural community.	1.1 A rural community is considered to be a town or county which is a minimum of 32 kilometers from the City of Edmonton. (Alberta Recreation and Parks, in conversation).
1.2 Participants will be a) preschool age children who are b) trainable mentally retarded and c) living in the above rural community.	1.2 a) The PREP Program was designed for preschool age children ranging in age from 3 to 7 years (Watkinson, 1976, p.16). b) Trainable mentally retarded is an educational classification which includes developmental levels ranging from moderate to severe retardation with an ability to profit from programs which concentrate on functional academics with emphasis on self help and vocational skills (Hallihan and Kaufman, 1978, pp. 68 -69). Watkinson (1977) considers that the educational definition of trainable mental retardation would involve "children who are attending or have attended programs designed as 'preschool', 'early childhood' or 'sense training' and the focus of these programs would

Intents	Standards
	be to prepare the child for the elementary curriculum by teaching them prerequisite skills in self help, language, social and motor development (p. 43).
	c) A minimum of 5 participants living within the boundaries of the town or county is considered to be an appropriate number for implementation of the program (Alberta Recreation and Parks, in conversation).
	Instrument: Referrals will be obtained from advocate agencies. Many of the educational programs reviewed rely extensively on referrals as a means of identifying individuals who can benefit from the program (e.g. Hayden and Harding, 1976).
1.3 Staff will be the parents or caregivers of each child.	1.3 At least one parent or caregiver of each participant will indicate verbally that he or she is prepared to become directly involved in the program for a period of 14 weeks. Levitt and Cohen (1976) indicate that most parent intervention programs traditionally involve only one parent. It was felt that although the involvement of additional family members would be ideal, the participation of one parent or care-

Intents	Standards
	giver is an acceptable standard.
1.4 A facility, equipment and training materials will be arranged by the program director and the program co-ordinator.	1.4 a) The facility should meet the following estimated conditions: (1) central location (2) length: 40 feet (3) width: 20 feet (4) height: 12 feet (5) storage: 100 square feet, and (6) well illuminated. b) The following is a list of equipment that has been recommended for the implementation of the PREP Program: RECOMMENDED EQUIPMENT LOCOMOTOR SKILLS 1. open space of 20' length 2. stairs with a railing or near wall 3. benches or boxes of varying heights (3" to 36") 4. lines or tape on the floor 5. one rope or stick 6. mats or landing pads PLAYROOM SKILLS 7. wagon 8. tricycles (of different sizes if possible) 9. scooters 10. trampoline 11. wide ramp 12. suspended vertical rope

Intents

Standards

PLAYGROUND SKILLS

13. playground slide
14. climbing apparatus with adjustable horizontal bars (24' high to 5' high)
15. swing or rope suspended in loop from horizontal bar
16. mats

BODY CONTROL SKILLS

17. climbing apparatus with vertical ladder
18. bench or beam (inclined)
19. boxes or benches (36" high)
20. mats

OBJECT CONTROL SKILLS

21. tennis balls or whiffle balls (not more than 3" in diameter)
22. bean bags (optional)
23. large light balls (not less than 8" in diameter)
24. plastic hockey sticks
25. plastic baseball bats with large head

It is estimated that a first year program should obtain a minimum of 75% of the recommended equipment.

c) The following program materials should be used for staff training:

Intents	Standards
	(1) The PREP Manual (Watkinson,1976). (2) handout information on an introduction to the program, assessment procedures, prescription and instructional techniques, (3) slides and videotapes illustrating the various components of the program. Source of standard: It is felt that the above program materials would inform the parents about the rationale, objectives and specific activities of the program.
1.5 Financing will be provided from a research grant.	1.5 A research grant from Alberta Recreation and Parks, Recreation Services to Special Groups Section should be obtained to the sum of $8200. It is estimated that this sum will cover the cost of facility rental, supervisory wages, development of materials, travel expenses and the purchasing of equipment.
1.6 A schedule of program implementation will be drawn up with consideration of availability of the parents, the children and the facility.	1.6 An ideal schedule for implementation would be a minimum of 2 program sessions per week for 1.5 hours per session. Source of standard: This is the minimum amount of time for which the PREP Program has been implemented.

Intents	Standards
	Instrument: Consensus will be obtained in the design of a schedule at a group meeting.
1.7 Support will be obtained from the local recreation department and from advocates within the community.	1.7 Community support would be considered ideal if a) the recreation department would (1) provide assistance in the identification of a suitable facility, (2) provide assistance in the identification of local agencies which may be interested in providing support to the program, and (3) provide a local staff person for direct involvement in the program, and b) a volunteer from an advocate group would be interested in becoming directly involved in the program. Source of standard: This standard was viewed as an application of Hutchison and Lord's (1975) discussion of the recreation integration process and of the suggestions made by Arsenault (1978) on the importance of soliciting the support and involvement of the municipal recreation department.

2. Transactions

Intents	Standards
2.1 Staff training. The parent staff members will attend 3 two-hour training seminars on the implementation procedures of the PREP Program. The purpose of seminar 1 is to provide the rationale and objectives of the PREP Program. The purpose of seminar 2 is to prepare the staff for the assessment and prescription of target skills. The purpose of seminar 3 is to discuss instructional technique.	2.1 a) It is estimated that a minimum of 80% of the families should be represented at each training seminar. Heifetz (1977) indicated that 90% of the families were represented at each of the training meetings in his study. It is felt that due to the small sample in the present study, 80% attendance is an acceptable standard. b) Lillie (1976) suggests that feedback forms be provided to the parents regarding each aspect of program implementation. It is estimated that a minimum of 80% of the parents who attend the training seminars should judge them to be effective in preparing them to implement the program.
2.2 Program Implementation a) The program staff will assess the children on the PREP target skills and task sequences. Instruments of Assessment: Free Play Inventory and PREP Individual Student Profile. b) Two target skills will be prescribed for instruction for each program participant.	2.2 a) The first 3 program sessions will be spent assessing the program participants on the PREP target skills and task sequences (PREP Program, 1979). b) It is estimated that by the fourth program session two target skills should be prescribed for each participant. c) It is estimated that individualized instruction on the prescribed target skills should begin by the fifth pro-

Intents	Standards
c) Individualized instruction will begin for each child on the prescribed target skills. The instructional technique to be employed will involve the use of the criterion referenced instructional sequences provided in the PREP Manual (Watkinson, 1976). The role of the instructor will be "to assist the child in progressing along the task steps by decreasing or fading the amount of assistance provided to the child at each task step" (Wall, Watkinson and Shatz, 1979).	gram session.
Instruction of this nature will be provided for short periodic intervals within a free play environment.	d) Each parent staff member should record performance information at 100% of the program sessions attended (Watkinson, 1976, p.32).
d) Instruction will be provided at each program session and the sessional performances of the children will be monitored and recorded.	e) It is estimated that a minimum of 80% of the parent staff members should be satisfied with the amount of assistance received from the program coordinator at each phase of program implementation.
Instrument of recording: The PREP Daily Record Form (Watkinson, 1976).	Instrument: Questionaires will be used to obtain information regarding the satisfaction of the parents.
e) Individual assistance will be provided to each parent staff member by the program coordinator in all of the above phases of program implementation.	f) It is further estimated that each family should be represented at 75% of the program sessions.

Intents	Standards
2.3 Community involvement will be maintained.	2.3 It is estimated that volunteers from the Recreation Department and advocate group should attend 80% of the training sessions and 80% of the program sessions.

3. Outcomes

Intents	Standards
3.1 The program participants will progress on the prescribed target skills.	3.1 Each program participant will show measurable progress on at least one of the target skills that was prescribed for instruction (Watkinson, 1977, p.107). Instrument: Continuous performance information will be transposed to performance graphs and visually analyzed with respect to the overall progress achieved by each participant.
3.2 The parent staff members will find the training sessions to have been helpful in implementing the PREP Outreach Program.	3.2 It is estimated that a minimum of 80% of the parent staff members should judge the training sessions to have been helpful in implementing the PREP Outreach Program. Instrument: Interview schedules will be used to determine the parents perceptions on the helpfulness of the training sessions in the implementation of the program.

Intents	Standards
3.3 The parent staff members will be satisfied: a) with the effect that the program had on the motor skills of the participants, b) with the effect that the program had on their own ability to teach motor play skills, c) with the effect that the program had on fostering community awareness, and d) with the benefits of the program in general.	3.3 It is estimated that a minimum of 80% of the parents should respond favorably with regards to the effects of the program on: a) their child's gross motor play skills, b) their ability to teach gross motor play skills to their child, c) the level of community awareness, and d) with the benefits of the program in general. Instrument: Interview schedules will be used to obtain the above information.
3.4 The parent staff members will be committed to the continuation of the PREP Outreach Program.	3.4 It is estimated that a minimum of 80% of the parents should indicate that they would like the program to be continued. Instrument: Interview schedules will be used to obtain the above information.
3.5 The town recreation department will be directly involved in the continuation of the PREP Outreach Program.	3.5 Appropriate follow-up action should be taken by the recreation department to ensure the continuation of the PREP Outreach Program.

Intents	Standards
	Instrument: the above information will be obtained through the use of an interview schedule.

Methods of Inquiry

The specific methods of inquiry used for the analyses of congruence and contingency in the evaluation of the PREP Outreach Program included: (a) the single subject basic time-series design (Kratochwill, 1978), (b) questionaires and interview schedules (Kerlinger, 1973), and (c) attendance records. The research for the study was designed to maximize the data sources on which conclusions and recommendations would be made.

The Basic Time-Series Design

The single subject basic time-series design represents a quasi-experimental strategy for the evaluation of a treatment variable over a specified period of time (Campbell and Stanley, 1963). The basic feature of the design is the continuous recording of performance measurements. Initially baseline measurements are obtained. The treatment variable is then introduced and the resulting changes in performance over time are recorded. Results are graphically illustrated and visually examined, supplemented with an analysis of changes in level and changes in trend from baseline scores (Jones, Vaught and Weinrott, 1977). The single subject

design is advocated by researchers in the field of applied behavioral analysis (Birnbrauer, et al., 1974; Gelfand and Hartman, 1975; Kratochwill, 1978) and has been applied in a number of studies evaluating the effects of training programs designed for use with individuals who are mentally retarded (Watkinson, 1977; Wehman, 1977).

Limitations

Campbell and Stanley (1963) list history, maturation and instrumentation as factors which may confound the internal validity of a single subject study. In the present study, as in most naturalistic observational studies the effects of history could not be fully controlled. This is not seen as a critical limiting factor because each child served as his or her own control; any extraneous variables would be evident from the onset of the assessment period through to the end of the program. The external variable most likely to have had an effect on the child's performances was the extent to which various parents worked on the motor skills at home. Because a large component of the present study was the training of parents in the skills necessary to instruct their children, changes that occurred in the home setting were considered to be program effects.

Maturation is a possible source of confounding where physical or developmental changes occur within subjects over a period of time (Kratochwill, 1978). Due to the young age of the children involved in the study and the develop-

mental nature of the instructional sequences used, the effects of maturation could not be controlled. However, it is unlikely that maturation could be solely responsible for the performance changes observed in each child over the 14 week period of program implementation.

Instrumentation is a possible limiting factor in studies where the measurements involve the judgment of human observers who may be aware of the experimental plan (Kazdin, 1977; McNamara and MacDonough, 1972). In the present study, instrumentation may not be viewed as a critical limiting factor in that the parent staff members were instructed that the prime function of recording was for the purpose of making decisions with respect to the appropriateness of specific target skill instruction. Their awareness of the experimental plan is therefore questionable.

The experimental design used in this study involved the application of one intervention over 7 different individual subjects and their families. However, the extent to which the observed results can be generalized to other rural communities is limited. The complete description of program variables provided will enable the same intervention model to be replicated in other communities to determine the generality of the finding.

Instrumentation

The PREP Program encompasses a task analyzed

curriculum of over thirty-five gross motor play skills. The instrument of assessment, the PREP Individual Student Profile (revised from Watkinson, 1976) is illustrated in Figure 5 and appears in Appendix A of this study. The format of this profile includes a matrix of criterion referenced task steps which specify increasingly skillful behaviors leading to the performance of any given target skill. A second matrix is also included which forms a range of response prompts within each task step. The PREP Program materials (see Appendix A) suggest that the first three program sessions be spent assessing the children. The specific assessment procedure is well documented and basically involves the following steps:

a) observe the child for target skill performance,

b) request that the child perform a given target skill,

c) demonstrate the next higher task step and continue demonstrating increasingly higher task steps, and

d) record the lowest step at which physical assistance is required.

After the initial assessment period specific target skills were prescribed for instruction by the parents with the assistance of the program coordinator. The prescriptions were based on the parent's perceived needs and interests of each child. The parent staff members were instructed to begin teaching each prescribed skill on the task level at which the child had successfully performed on two separate

Jumping Down

		Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates in Free Play
1.	Steps down off of shin height					
2.	Jumps down off box of shin height, one foot take-off, two foot landing					
3.	Jumps down off box of shin height, two foot take-off and landing					
4.	Jumps down off box of knee height, two foot take-off and landing					
5.	Jumps down off box of hip height, two foot take-off and landing					

Figure 5. Excerpt of the PREP Program Individual Student Profile
(revised from Watkinson, 1976)

occasions during the assessment period; but to provide slightly less assistance than had been previously required. For example if a child had been assessed at task level 1 with assistance, the parent should begin instruction at task level 1 fading the complete assistance. The parent staff members were told to fade assistance by applying the response prompting continuum (Watkinson, 1976) shown in Figure 6. Each level of prompting is well defined in the PREP Manual (Watkinson, 1976). (For more complete information on the techniques of prompting involved in the PREP Program the reader is referred to Wall, Watkinson and Shatz, 1979). Basically, manipulation is defined as completely manipulating the child's body or body part through the desired movement pattern. Manipulative prompts are considered to be the provision of physical support at some point in the movement pattern. A demonstration is a type of exaggerated visual prompt, and a verbal cue is a word or sentence that tells the child to perform the skill.

The parents were instructed to follow the task sequences provided in the Individual Student Profile and to refer to the PREP Manual for teaching suggestions using the response prompting continuum. Performance measurements were to be recorded each session on the PREP Daily Record Form seen in Figure 7 (Watkinson, 1976). This form requires that the staff member record the highest task step at which the child performs and the level of prompting that was needed for the performance of the task, in addition to

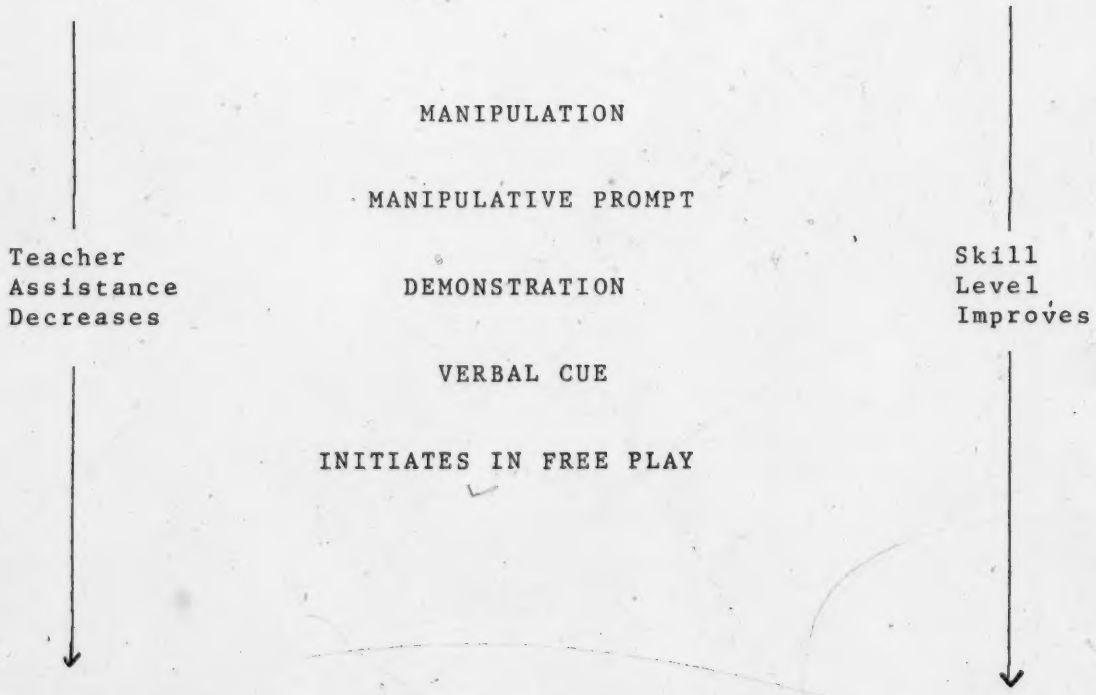

Figure 6. The PREP Program Response Prompting Continuum (Watkinson, 1976).

NAME: _____

MONTH: _____

DATE	TPO _____			TPO _____			COMMENTS
	TASK	RESPONSE LEVEL	TIME/ NUMBER	TASK	RESPONSE LEVEL	TIME/ NUMBER	

Figure 7. The PREP Daily Record Form (Watkinson, 1976).

the number of times the child performed and the amount of time spent in instruction. In this manner, sessional performance changes were closely monitored over the fourteen week period. This method of recording is congruent with the continuous recording techniques employed in other instructional programs designed for use with mentally retarded children and their families (e.g. Fredericks, et al., 1976).

Treatment of the Data

Each child's sessional performance information was transposed onto a progress graph after five instructional sessions. This information was used to make decisions regarding the appropriateness of the target skill and instructional technique. After the fourteen week period each graph illustrated the change in skill performance from the beginning of assessment through to the termination of instruction.

The graphic performance data was analyzed visually to determine the extent to which the program intents had been observed. Where congruence was achieved the performance graphs were also analyzed with respect to the stability of baseline measures, changes in trend between and within phases, and changes in level between and within phases (Parsonson and Baer, 1978). This information was used to demonstrate empirical contingencies among the observed antecedents, transactions and outcomes.

In situations where the visual analysis of graphic data indicated incongruence between program intents and observations, the performance graphs were used to determine the extent to which the parents had recorded the program sessions that they attended. This analysis involved the calculation of the percentage of attended sessions that had been recorded using the formula below:

$$\frac{\text{Total sessions recorded}}{\text{Total sessions attended}}$$

The recording information was examined with consideration given to information which was obtained through the use of questionaires and interview schedules.

Interview Schedules and Questionaires

The interview has been considered man's oldest and most frequently used device for obtaining information (Kerlinger, 1973). Kraus (1977) indicates that interview schedules and questionaires are common methods of gathering information for the evaluation of recreation programming useful for the determination of needs and interests, and for the obtaining of background participation information. These techniques have also been utilized in revealing the degree of client satisfaction with respect to the overall program effects and future directions for the program (Canadian Institute for Research, 1978; Kerlinger, 1973). The major limiting factor in the use of the interview

schedule or questionaire is that they measure what a person says as opposed to what a person thinks or believes. This factor can be minimized by the careful selection of wording so that questions are not leading in nature. Tuckman (1978) suggests that the scaled-response question is least likely to influence the respondent. Eight questionaire and interview schedule instruments were developed for the evaluation of the PREP Outreach Program. Copies of these instruments are provided in Appendix B.

A questionaire was developed to reveal the initial objectives of each parent staff member. The Instrument consisted primarily of 4 open-ended questions and is presented in Instrument 1 in Appendix B. The questions were stated in an open-ended manner so that the respondent could answer in his or her own words.

Questionaires were also used to provide the opportunity for the parent staff members to give feedback on the effectiveness of various aspects of the program transactions. A four-point scale of response was provided for each question in Instruments 2, 3, 4, and 5 so that the parents could indicate the degree of effectiveness as they perceived it. Instruments 2, 3 and 4 questioned the parent staff members on the effectiveness and helpfulness of each training session in preparing them to implement the program. Instrument 5 was developed so that the parents could indicate their degree of satisfaction regarding the amount of assistance provided them by the program coordinator.

Instruments 1 through 4 were distributed to the participating parents during a program session and were returned at a subsequent session. Instrument 5 was both distributed and returned primarily by mail. The results of Instrument 1 were analyzed with respect to the degree that the stated objectives met with the designed objectives of the program. Instruments 2 through 5 were analyzed in terms of the percentage of a, b, c and d levels of response. Respondents were also provided with a limited amount of space in which to comment descriptively.

Interview schedules were used to determine the perceptions of the participating parents with regards to the overall effects of the program. Instrument 6 consisted of four categories of questions regarding the program effects on the play skills of the children, on the instructional skills of the parents, on the effectiveness of the training sessions in implementing the program materials, and on the level of awareness within the community. A final question was included to determine how each parent felt about the future of the program. A four-point scale of response was provided in each question so that the parents could respond within a suitable range of possibilities.

Instrument 7 was developed to determine the extent to which the parents perceived their knowledge and understanding of the program instructional components both before and after participating in the PREP Outreach Program. A four-point scale of response was provided in each question

with the respondents indicating the perceived level of pre-program and post-program knowledge and understanding of instructional technique.

Instruments 6 and 7 were distributed to the participating parents during a program session. They were returned and discussed during private taped interviews. The information from Instrument 6 was analyzed by determining the percentage of a, b, c and d levels of response. Instrument 7 was analyzed by assigning scores to each of the possible levels of response with (1) being the lowest or poor and (4) being the highest or excellent. The amount of improvement perceived by the parent was calculated by subtracting the perceived pre-program score from the perceived post-program score. The taped interviews were examined only as supplemental information to the quantified data obtained in Instruments 6 and 7.

Instrument 8 was developed to determine the extent to which the municipal recreation department was committed to the continuation of the PREP Program. The instrument was mailed to the Recreation Director and consisted of four scaled response questions. The first two questions were regarding the procedures antecedent and transaction levels of program implementation. The third and fourth questions were used to determine the degree of commitment by the recreation department to the continuation of the PREP Outreach Program. Instrument 8 was returned to the evaluator following an interview session with a representative

from the Town Recreation Department.

Attendance Records

Lillie and Trohanis (1976) suggest that attendance records can be used to indicate the degree of parent commitment to a program designed for use with their children who are mentally retarded. Kraus (1977) warns that although attendance records are frequently maintained in recreation programs, they do not reflect satisfaction, quality or results; but merely that a certain number of people were present. The parents participating in the PREP Outreach Program were not required to pay a registration fee, nor were they paid for becoming directly involved. In view of the voluntary nature of attendance, an accurate head-count was maintained to supplement direct interview questions regarding parental commitment to the program. The attendance records were analyzed with regards to the number of sessions attended over the total number of sessions available for each child.

CHAPTER V

RESULTS

Statement of Observations

The results of the PREP Outreach Program are presented as a set of observations encompassing three levels of program information: observed antecedents, observed transactions and observed outcomes.

1. Observed Antecedents

1.1 Location. The County of X was identified as an appropriate location for the implementation of the PREP Outreach Program. The county limits are 34 kilometres from downtown Edmonton which exceeds the predetermined standard of 32 kilometres. The search for an appropriate location with respect to participant characteristics was initiated in May of 1978 with the assistance of the Alberta Association for the Mentally Retarded. The County of X was identified as an appropriate site in October of 1978 with the assistance of two resource development workers from Alberta Social Services and Community Health, Services for the Handicapped Division. It was indicated at that time that a parent group was in the process of being formed representing families whose children were ranging

in age from 1 to 6 years.

1.2 Participants. Program participants were seven preschool aged children - five girls and two boys - living in the County of X. Families were referred to the program by a resource development worker and a social worker employed by Alberta Social Services and Community Health. The date of birth, medical diagnosis, developmental level and special educational experience of each child are provided in Table 1. None of the children had any overt physical disabilities that would contraindicate involvement in the PREP Outreach Program. As seen in Table 1 although all of the children were preschool aged with some special educational background, 3 of the 7 children were younger than the predetermined age standard of 3 years.

1.3 Staff. By January 15, 1979 at least one parent of each of the seven participants indicated verbally that he or she was prepared to become directly involved in the program for a period of 14 weeks. The verbal indication was obtained at group meetings and during home-visitations which were conducted to acquaint the parents with the PREP Program. Written indication of how the parents felt regarding implementation of the PREP Outreach Program was provided in response to question 6 of Instrument 2.

TABLE 1

CHARACTERISTICS OF PROGRAM PARTICIPANTS

SUBJECT	DATE OF BIRTH	DIAGNOSIS	DEVELOPMENTAL LEVEL	SPECIAL EDUCATION EXPERIENCE
1	12/31/76	etiology unknown	moderate	yes
2	3/6/77	Down's Syndrome	moderate	yes
3	4/25/75	Down's Syndrome	severe	yes
4	9/17/73	Down's Syndrome	moderate	yes
5	3/25/74	etiology unknown	moderate	yes
6	10/20/77	Down's Syndrome	moderate	yes
7	8/24/77	Down's Syndrome	moderate	yes

The results of this question are provided in Table 2. Although one of the families attending the group meeting did not turn in the questionaire, 100% of the families who did so responded favorably to the question.

1.4 a) Facility. With assistance from the Town X Recreation Department the Masonic Hall was selected as the centre for the implementation of the PREP Outreach Program. The hall is located in the downtown area of Town X and the meeting room which was used as the play area was well illuminated. The dimensions of the play area and storage facilities are provided in Table 3. Although the playroom dimensions exceeded the predetermined standards of 40 feet in length, 20 feet in width and 12 feet in height, the 40 square feet storage area was far less than the predetermined 100 square feet standard. The selection of the facility was completed 3 months following the identification of a suitable location.

b) Equipment. By February 5, 1979 the following equipment was obtained for the implementation of the PREP Outreach Program:

3 tricycles
1 mini-basketball game
4 balls (8" diameter)
1 ball (2" diameter)
1 wagon

TABLE 2

INITIAL PERCEPTIONS OF THE PARENTS REGARDING THE IMPLEMENTATION OF THE PREP OUTREACH PROGRAM

At the end of the introductory session how did you feel about implementing the PREP Program in your community?

Response Scale	Response Level	Number Responded	Percentage Responded
Very positive	a	5	83%
Positive	b	1	17%
Hesitant	c	0	0%
Negative	d	0	0%

TABLE 3

DIMENSIONS OF THE PLAY AND STORAGE AREA

Length	Width	Height	Storage
43 feet	30 feet	14 feet	40 square feet

2 bean bags
1 climbing box
1 wooden incline
1 A-frame ladder
2 plastic hockey sticks
2 plastic pucks
2 scooters
1 mat
3 large carpet remnants

The playroom contained built-in jumping platforms 7 and 20 inches high, one set of 3-step stairs and two sets of 4-step stairs; each step measuring 7 inches in height. There was approximately 30 feet of open space area at all times. The floor of the playroom contained decorative markings which were used as lines for skills such as jumping over. On February 17, 1979 an additional A-frame ladder and a horizontal bar attachment for swinging were obtained. The percentage of the recommended equipment that was obtained was 80% which exceeded the estimated 75% standard.

c) Materials. The following materials prepared by the PREP Program staff were used for the purpose of staff development:

1. introductory handout,
2. handout on the PREP assessment procedure,
3. hand out on the PREP instructional procedure,
4. slide show on instructional techniques,
5. videotapes on the rationale, assessment procedure and instructional procedure used in the PREP Program,

6. the PREP Program Free Play Inventory,

7. the PREP Individual Student Profile (revised from Watkinson, 1976) and

8. the PREP Program Manual (Watkinson, 1976).

Items 1, 2, 3, 6 and 7 are provided in Appendix A.

1.5 Finance. A research grant of $8,200.00 was provided from the Alberta Department of Recreation and Parks, Recreation to Special Groups Section.

1.6 Schedule. The program was scheduled to operate twice weekly (Mondays and Saturdays) for 3 children who were not involved in a daytime school program and once per week (Saturdays) for 4 children. The Monday morning session ran from 10:00 to 11:45. The Saturday session was split into two-one hour sessions. Five participants, their siblings and parents attended the early sessions (10:00 to 11:00) with the option of remaining during the late sessions. Two participants, their siblings and parents attended the late session (11:00 to 12:00). The groups were divided according to size, age and the amount of space needed for the degree of activity exhibited by the participants. Although congruent with the stated intent of developing a schedule on the basis of availability of facility, parents and children, the observed schedule did not meet with the estimated standard of two 1.5 hour sessions per week.

1.7 a) Support. On November 15, 1978 the Town Recreation Board of Directors approved the implementation of the PREP Outreach Project. It was indicated that the degree of involvement would be decided by the Recreation Director. The assistance of the Recreation Department was pledged in finding a facility that would be appropriate for the implementation of the Outreach Program and suggestions were made regarding the potential interest of advocate groups within the community. This observation did not fully meet with the predetermined standard which included a pledge from the Recreation Department to provide a volunteer to become directly involved in implementing the program.

b) A member of the local Kinnette Association indicated that she would be interested in becoming directly involved in the PREP Outreach Program on a voluntary basis. At her suggestion, an introductory presentation was provided to the local Kinsmen and Kinnette Association during which financial support was pledged for the purpose of building some large pieces of play apparatus.

2. Observed Transactions

2.1 Staff Training. Three two-hour evening sessions were held for the purpose of training the parent

staff members in the PREP Program procedures. The first two training sessions "An introduction to the PREP Program" and "The PREP assessment procedures" were held prior to the 14 week implementation period. The third session "The PREP Program instructional techniques" was held during the middle stage of the implementation period. Following the second session and before the third, the parent staff members were instructed to read the PREP Manual (Watkinson, 1976) paying close attention to the segments on "Teaching", "Recording" and specific target skill instruction.

The introductory session was conducted on three occasions, November 15 and December 19 of 1978, and January 15, 1979. Five families were represented at the first session; three of whom indicated that the PREP Program was appropriate for their children and one who indicated that they would like to become involved though their child was younger than the specified population. Two mothers attended the second session, one of whom indicated that she would like to become involved though her child was younger than the specified population. On the third session three families were represented and two expressed the appropriateness of the program for their children. When the program was deemed

inappropriate, it was due to the severe overt physical limitations of their children. All of the parents who considered the program characteristics to be appropriate for their children expressed a desire to play an active role in the program.

An outline of the introductory session is provided below:

1. Lecture on the play characteristics of moderately mentally retarded children.
2. Videotape on the PREP Program rationale.
3. Lecture on the basic features of the PREP Program.
4. Distribution of the introductory handout (see Appendix A).
5. Discussion.

Instrument 2 was distributed so that the parents could provide feedback on the effectiveness of the introductory session. As seen in Table 4, of the 6 families who returned the instrument 83% responded favorably to question 1, 100% to question 3, and 100% to question 5.

The second training session, "The PREP assessment procedure" was held on January 18, 1979. Six of the 7 families were represented by at least one parent. An outline of the assessment session is provided below:

1. Lecture on the need for assessment in the PREP Program.

TABLE 4

PERCEPTIONS OF THE PARENTS REGARDING

THE INTRODUCTORY TRAINING SESSION

Question 1: How effective was the introductory videotape in providing you with information on the need for a play program such as PREP?

Response	Response Level	Number Responded	Percentage Responded
Very effective	a	5	83%
Effective	b	0	0%
Of some value	c	1	17%
Not effective	d	0	0%

Question 3: How effective was the introductory talk in providing you with an introduction to the PREP Program?

Response	Response Level	Number Responded	Percentage Responded
Very effective	a	3	50%
Effective	b	3	50%
Of some value	c	0	0%
Not effective	d	0	0%

Question 5: How effective was the handout in outlining the basic features of the PREP Program?

Response	Response Level	Number Responded	Percentage Responded
Very effective	a	4	67%
Effective	b	2	33%
Of some value	c	0	0%
Not effective	d	0	0%

2. Lecture and videotape on the assessment procedure.
3. Lecture on the prescription of target skills.
4. Distribution of handout on the assessment procedure (see Appendix A).
5. Distribution of PREP Manual (Watkinson, 1976).
6. Discussion.

Instrument 3 was distributed so that the parents could provide feedback on the effectiveness of the second training session. As seen in Table 5, of the 6 families who attended this session 83% responded favorably to questions 1 and 4 and 100% responded favorably to questions 2 and 3.

The third training seminar "The PREP instruction technique" was held on March 28, 1979. Six out of a possible seven families were represented at this session by at least one parent. An outline of the instructional session is provided below:

1. Lecture on the response prompting continuum used in the PREP Program.
2. Videotape illustrating the response prompting continuum.
3. Lecture on individualized instruction.
4. Videotape illustrating the phases of individualized instruction.
5. Distribution of handout on instruction (see Appendix A).
6. Discussion.

TABLE 5

PERCEPTIONS OF THE PARENTS REGARDING

THE ASSESSMENT TRAINING SESSION

Question 1: Do you feel the purpose of the session and the information given was clearly and logically organized and presented?

Response	Response Level	Number Responded	Percentage Responded
Well organized	a	4	66%
Reasonably well organized	b	1	17%
Sections seemed unclear	c	1	17%
Had difficulty following session	d	0	0%

Question 2: How do you feel about the audio-visual material used?

Response	Response Level	Number Responded	Percentage Responded
Very helpful	a	5	83%
Helpful	b	1	17%
Of some value	c	0	0%
Seemed unrelated and should not have been shown	d	0	0%

TABLE 5 (cont'd)

Question 3: How do you feel about the amount of material covered in this session?

Response	Response Level	Number Responded	Percentage Responded
Too much to process	a	2	33%
Sufficient	b	4	67%
Could have covered more	c	0	0%
Additional material required	d	0	0%

Question 4: Did you find the handouts/written material helpful?

Response	Response Level	Number Responded	Percentage Responded
Very helpful	a	5	83%
Helpful	b	0	0%
Of some value	c	1	17%
Should not have been given	d	0	0%
Would have liked additional written information	e	0	0%

Instrument 4 was distributed so that the parents could provide feedback on the effectiveness of the third training session. As seen in Table 6, 100% of the 6 families who attended the session responded favorably to all 4 questions.

2.2 Program Implementation. Assessment procedures were initiated on January 27, 1979 which also marked the beginning of the fourteen week period of program implementation. The initial assessments for Subjects 1 through 5 were recorded on the PREP Program Free Play Inventory and Individual Student Profile (I.S.P.). The Free Play Inventory was used on the first assessment session for the purpose of determining which of the target skills were already in the free play repertoire of each child. The I.S.P. was used during the second and third assessment sessions to determine the task level at which the child could perform each target skill and the amount of prompting required. Following three assessment sessions each parent staff member indicated, in response to question 4 of Instrument 1, which target skills they would like to prescribe. With assistance from the program coordinator 2 target skills were prescribed for each subject based on the results of the I.S.P., as shown in Table 7.

TABLE 6

PERCEPTIONS OF THE PARENTS REGARDING

THE INSTRUCTION TRAINING SESSION

Question 1: Do you feel the purpose of the session and the information given was clearly and logically organized and presented?

Response	Response Level	Number Responded	Percentage Responded
Well organized	a	3	80%
Reasonably well organized	b	2	20%
Sections seemed unclear	c	0	0%
Had difficulty following session	d	0	0%

Question 2: How do you feel about the audio-visual material used?

Response	Response Level	Number Responded	Percentage Responded
Very helpful	a	3	60%
Helpful	b	2	40%
Of some value	c	0	0%
Seemed unrelated and should not have been shown	d	0	0%

TABLE 6 (cont'd)

Question 3: How do you feel about the amount of material covered in this session?

Response	Response Level	Number Responded	Percentage Responded
Too much to process	a	1	20%
Sufficient	b	4	80%
Could have covered more	c	0	0%
Additional material required	d	0	0%

Question 4: Did you find the handouts/written material helpful?

Response	Response Level	Number Responded	Percentage Responded
Very helpful	a	2	40%
Helpful	b	3	60%
Of some value	c	0	0%
Should not have been given	d	0	0%
Would have liked additional written information	e	0	0%

TABLE 7

RESULTS OF THE INITIAL ASSESSMENT USING THE PREP INDIVIDUAL STUDENT PROFILE

Subject	Session Prescribed	Session Attended	Target Skills	Task Level
1	5	4	Run	1 V.C.
			Jump down	1 M.
2	5	4	Ascend stairs	2 M.
			Jump down	1 M.
3	4	4	Catch	M.
			Run	2 M.
4	4	3	Ride a tricycle	1 M.
			Climb over A-frame	1 M.
5	4	4	Ascend a ladder	2 M.P.
			Descend a ladder	1 V.C.

Assessment procedures for Subjects 6 and 7 were initiated using a Home Skills Checklist that was designed to include the developmental milestones observed in infant motor skill acquisition. The Home Skills Checklist (H.S.C.) is provided in Appendix C of this study. On the basis of the H.S.C. a number of target skills were identified as appropriate for individualized instruction for Subjects 6 and 7. The instructional sequences for these target skills were developed from other instructional programs designed for high risk infants (Fredericks, et al., 1976; Hanson, 1977) and from the PREP Primer Manual (Wall, et al., 1978) (for more information on the program materials that were developed for use with S_6 and S_7 the reader should refer to Shatz, 1979). Home visitations were held prior to the onset of the program implementation period at which S_6 and S_7 were assessed on the H.S.C. During the first two program sessions these subjects were assessed to determine the task step and level of prompting at which instruction should commence. The results of these assessment procedures were written down by the parents in response to question 4 of Instrument 1 and are shown in Table 8.

Instrument 1 also provided each parent staff member an opportunity to indicate their objectives for becoming involved in the PREP Outreach Program.

TABLE 8

RESULTS OF THE INITIAL ASSESSMENT USING THE HOME SKILLS CHECKLIST AND THE ACCOMPANYING INSTRUCTIONAL SEQUENCE

SUBJECT	TARGET SKILL	TASK LEVEL
6	Sit and turns to crawling position	1 M.
	Crawls	2 M.P.
	Sits up from lying on back	2 M.
	Sits up from lying on front	2 M.
	Stands supported	1
7	Crawls up stairs	1
	Walks unsupported	4

The results obtained in response to questions 1, 2, 3 and 5 of Instrument 1 are summarized as follows: (1) Eighty-six percent of the parents were interested in improving the quality of their child's motor play skills while 1 parent (14%) was hoping to have his child become more involved in organized games. (2) Six of the parents (86%) indicated that they were interested in gaining a better understanding of how to teach their children motor play skills. One parent left this question blank. (3) Generally the parents isolated three areas in which the community could gain through the implementation of the PREP Outreach Program. Six of the parents felt the program would help to foster community awareness with respect to their children's needs and capabilities. Of these six, four parents indicated that the program had potential for prompting the local provision of services, and two added that the program would be beneficial in helping identify other parents whose children had handicapping conditions. One parent indicated that the program would help other parents to overcome a serious problem. (4) Six of the seven parents (86%) indicated that they would work on the prescribed target skills in the home environment as well as at the centre. One parent (14%) indicated that she was not sure.

At the bottom of Instrument 1, one parent included

a general comment as follows:

> "I feel that the program is well organized and very beneficial to both parents and children. I hope such a program can continue in the future. Best of all, parents do not feel pressured in any way."

Individualized instruction began for each child during the same program session that the initial prescription was finalized. Each child was to receive a minimum of 5 minutes of intense instruction on every program session attended. The program coordinator provided assistance to the parents on an individualized basis during the assessment, prescription and instructional phases of program implementation. Each parent was instructed to record the highest performance level exhibited by the child on the prescribed skills for each program session attended on the PREP Daily Record Form (Watkinson, 1976). They were further told to feel free to come to the program coordinator if they were experiencing any difficulties. Assistance in recording was provided to the parents on an individual basis when requested. Each parent was also instructed to turn in the Record Form after 5 instructional sessions so that appropriate instructional or program revisions could be made.

Attendance records were maintained over the 14 week period of program implementation. Table 9 shows the

TABLE 9

ATTENDANCE RECORD AND THE AMOUNT OF PERFORMANCE RECORDS MAINTAINED

SUBJECT	SESSIONS AVAILABLE	PERCENTAGE OF SESSIONS ATTENDED	PERCENTAGE OF INSTRUCTIONAL SESSIONS RECORDED
1	14	(11) 78.5%	100%
2	25	(18) 72%	77.7%
3	15	(12) 80%	100%
4	14	(8) 57.1%	100%
5	14	(12) 85.7%	25%
6	25	(22) 88%	18.1%
7	25	(19) 76%	31.5%
MEAN	15.4	(14.6) 77.6%	64.6%

number of program sessions that were available to each parent and child, the percentage of program sessions that were attended, and the percentage of attended program sessions that had been recorded. An average of 77% of the program sessions available were attended by each parent and child (range from 57.1% to 88%). During 65% of these program sessions, records were maintained by the parent staff members (range from 18% to 100%). Although not indicated in Table 9, two instructional sessions occurring in the home environment were recorded for S_3; four were recorded for S_6 and two for S_7.

Six of the seven subjects (86%) were most often accompanied to the program by their mothers and siblings. One father was the principle staff member for his child. Four of the subjects (57%) were accompanied by both parents on 50% or more of the program sessions attended. The remaining three subjects were accompanied by both parents on an average of 14% of the program sessions attended (range 0% to 25%).

Instrument 5 was distributed to the parents to provide them an opportunity to specify their satisfaction with respect to the amount of assistance provided by the program coordinator. As indicated in Table 10, only 3 of the 7 parent staff members

TABLE 10

PERCEPTIONS OF THE PARENTS REGARDING

THE AMOUNT OF ASSISTANCE PROVIDED

Question 1: In assessing my child on the target skills

Response	Response Level	Number Responded	Percentage Responded
I received very little or no assistance	a	0	0%
Some assistance was provided	b	0	0%
I received too much assistance	c	0	0%
I received assistance whenever I needed it	d	3	100%

Question 2: In choosing target skills for instruction

Response	Response Level	Number Responded	Percentage Responded
I received very little or no assistance	a	0	0%
Some assistance was provided	b	1	33%
I received too much assistance	c	0	0%
I received assistance whenever I needed it	d	2	66%

TABLE 10 (cont'd)

Question 3: In instructing my child

Response	Response Level	Number Responded	Percentage Responded
I received very little or no assistance	a	0	0%
Some assistance was provided	b	0	0%
I received too much assistance	c	0	0%
I received assistance whenever I needed it	d	3	100%

Question 4: In recording weekly progress

Response	Response Level	Number Responded	Percentage Responded
I received very little or no assistance	a	0	0%
Some assistance was provided	b	1	33%
I received too much assistance	c	0	0%
I received assistance whenever I needed it	d	2	66%

Question 5: In deciding whether to continue teaching or to choose another skill

Response	Response Level	Number Responded	Percentage Responded
I received very little or no assistance	a	0	0%
Some assistance was provided	b	0	0%
I received too much assistance	c	0	0%
I received assistance whenever I needed it	d	3	100%

returned this questionaire. Those that did reply were satisfied with the amount of assistance provided to them from the program coordinator.

2.3 a) A representative from the Town Recreation Department was extremely assistive in the identification of a facility appropriate for the implementation of the PREP Outreach Project. One training session and one program session were attended by representatives from the Department and some contact was maintained via telephone conversation.

b) A volunteer from the local Kinette Association attended 33% of the training seminars and 32% of the program sessions during which she assisted the parents in target skill instruction. Through her support the program received some funding from the Association for the purpose of constructing some of the larger pieces of play apparatus. With this funding a group of the fathers got together and built the 2 A-frame ladders, the hollow climbing box, the bar swing attachment and the wooden incline. The Kinette volunteer was also instrumental in arranging an interview between the program coordinator, two parent staff members and a representative from the Town newspaper. An article was printed in the newspaper in mid-April accompanied with pictures of the children and parents playing at the centre.

A number of individuals from the community visited the program during the 14 week period of program implementation. Parents were frequently accompanied by friends, relatives and other concerned parents and their children. Also visiting the program was a representative from the Masons Group, an aide to a local kindergarten program, a youth worker from Preventative Social Services (P.S.S.), a home-teacher from the Early Education Program and a resource development worker from Services to the Handicapped Division of Alberta Social Services and Community Health.

Towards the end of the implementation period a request was made by a representative of a local kindergarten program for an introductory seminar on the PREP Program to be presented to the kindergarten staff. The session was conducted in May of 1979 and was well received.

3. Outcomes

3.1 The continuous performance information that was recorded for each child on the individual target skills prescribed for instruction is provided in Figures 8 through 27. In each graph the vertical axis represents the task steps required to perform the target skill and the accompanying levels of

response prompting. The horizontal axis is representative of the number of instructional sessions. Unless otherwise stated each data point along the horizontal axis represents a 1 week block of instruction; although the measure was taken each Saturday most of the parent staff members indicated that they were teaching the prescribed target skills regularly in the home environment. The points on the learning curves represent the highest level of performance achieved by the given subject on each program session. During the final two weeks of program implementation the program coordinator repeated the assessment procedure for each child on all of the prescribed target skills. The results of the pre and post assessments are indicated on the graphs with asterisks(*).

Subject 1.

As seen in Figures 8, 9 and 10 performance graphs are available for S_1 on 3 separate target skills. Figures 8 and 9 represent performance changes on the target skills to jump and to run which were prescribed immediately following the initial assessment procedure. On the target skill to jump measurable improvement was demonstrated over the 14 week period of program implementation, as indicated in Figure 8. Instruction was initiated at a task 1 level with a manipulative prompt (steps down off box of shin height). After 5

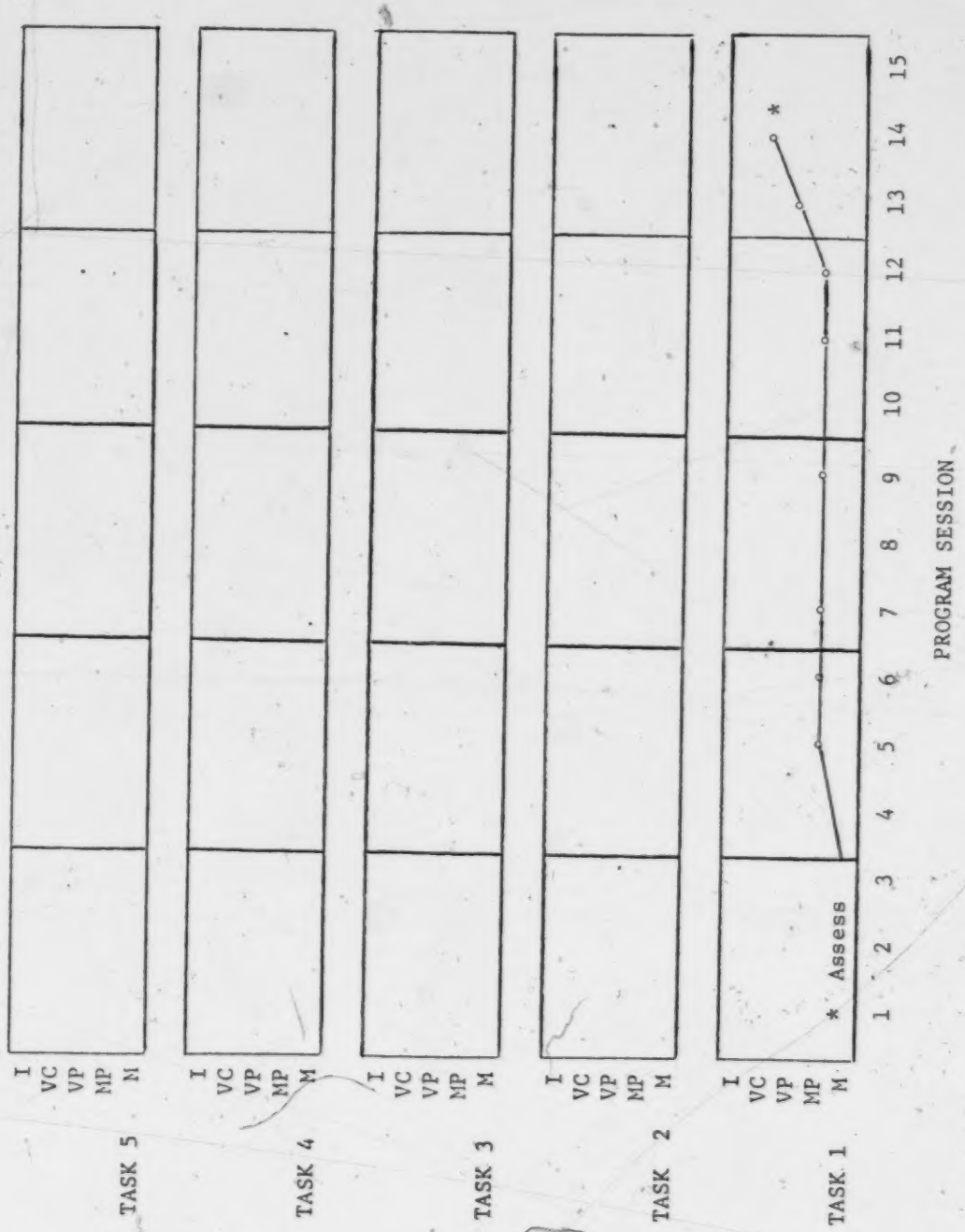

Figure 8. Performance Graph S_1 - Jump Down

instructional sessions with no measurable change demonstrated, instruction on this target skill was re-evaluated. It was decided that a more meaningful approach to instruction should be employed. (Previous to this decision a hoola hoop was placed on the floor and with physical assistance S_1 was requested to jump off a 7 inch platform into the hoop). As a result of the re-evaluation, the parent began to work on this task step by helping S_1 descend 4 stairs and delaying the physical assistance on the last step. This approach was meaningful to S_1 in that she was getting practice at descending stairs and it was more condusive for the parent to use this technique in the home environment. After three program sessions using this technique S_1 was consistently stepping down from the 7 inch platform on request.

Figure 9 graphically illustrates the measurable improvements that were achieved by S_1 on the target skill to run. After 5 program sessions during a seven week period S_1 moved from task step 1 with a verbal request (moves 10 feet with a fast walk) to task step 3 with a manipulative prompt (runs 20 feet with instances where neither foot is in contact with the floor). At that time the target skill to run was placed on maintenance. The decision to maintain the skill level achieved as opposed to continuing with

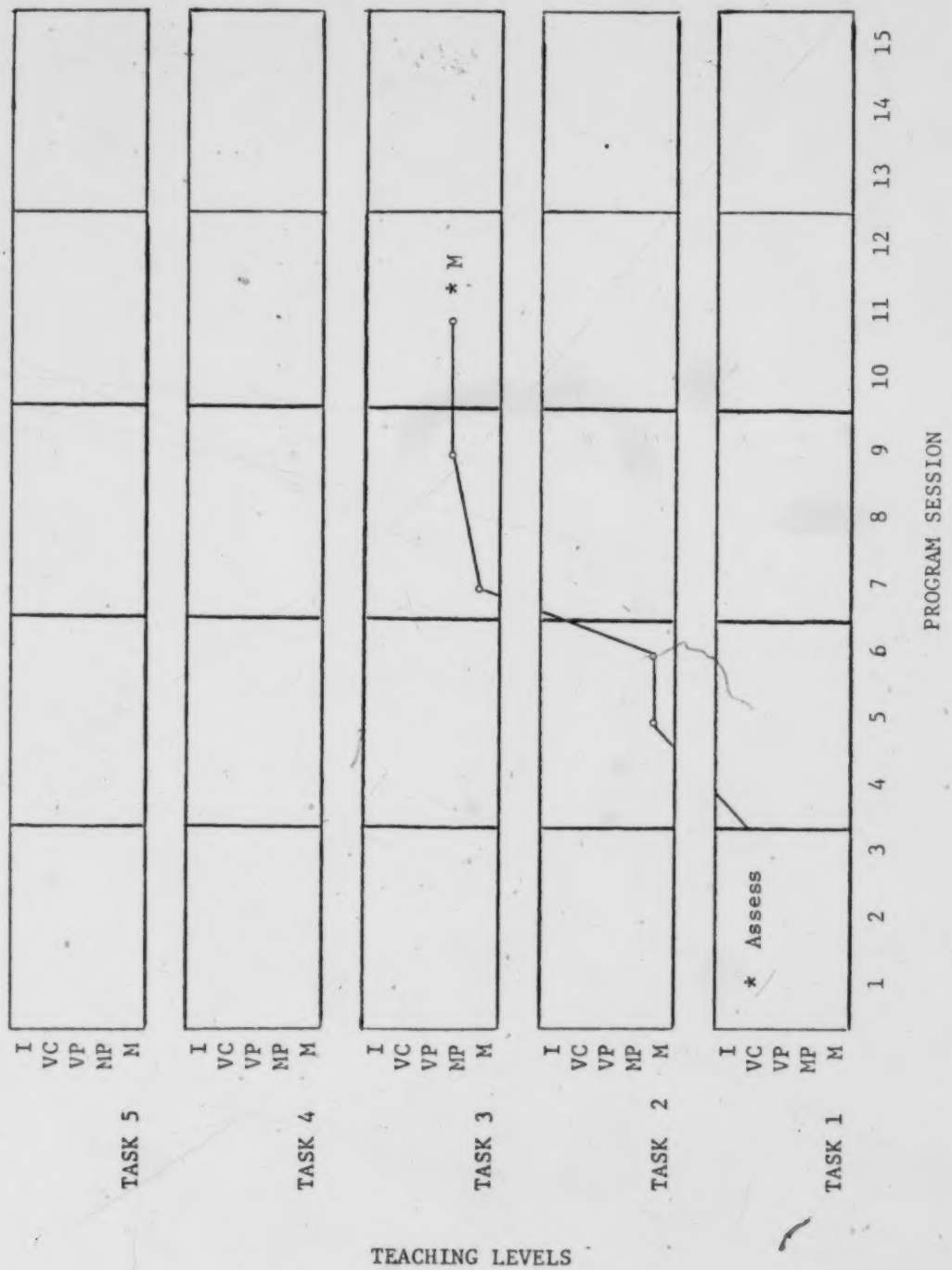

Figure 9. Performance Graph S_1 - To Run

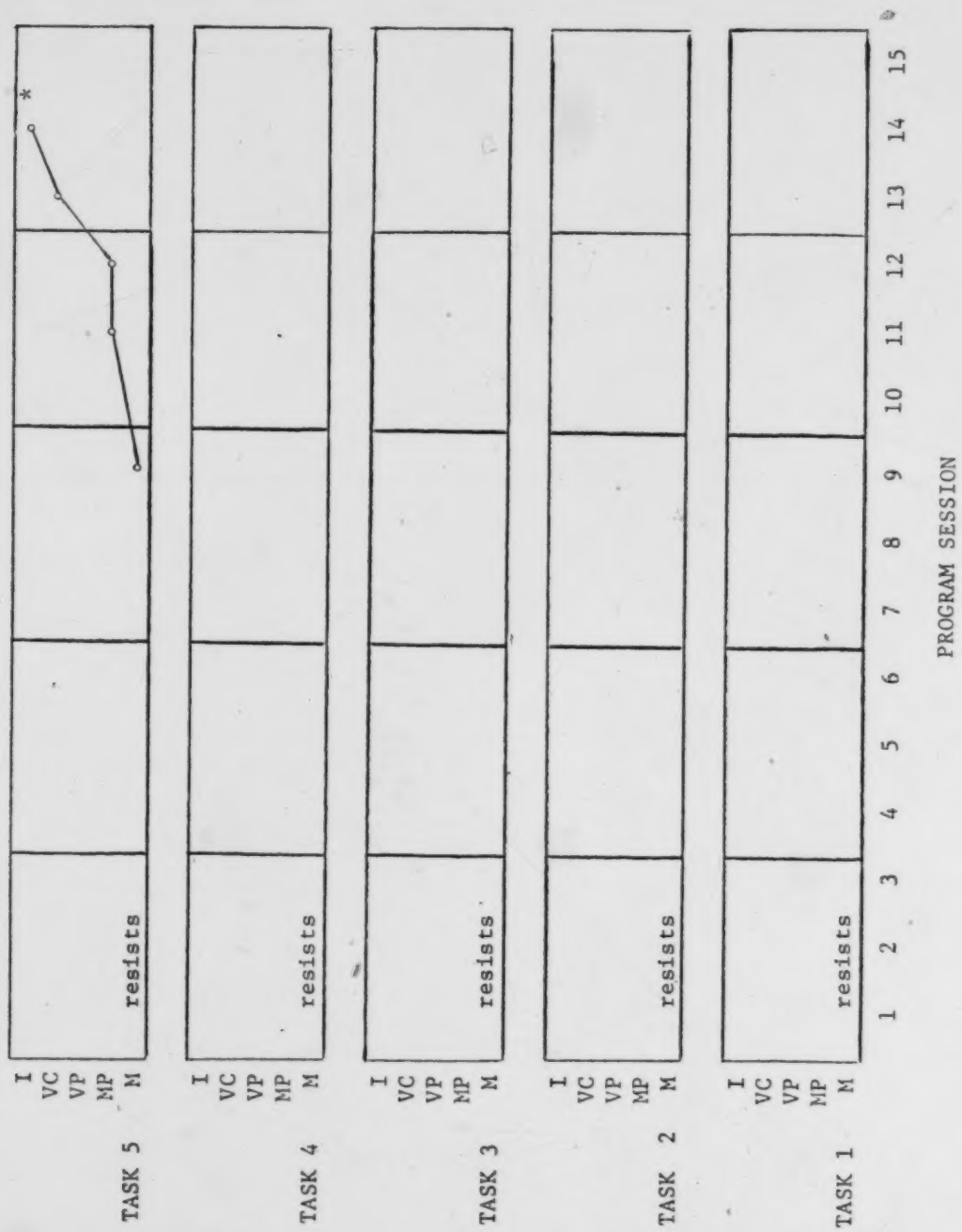

Figure 10. Performance Graph S_1 - Walk Up Incline

further instruction was based on the length of S_1's legs, the wide base of support that she used when running and her chronological age (3 years). It was felt that S_1 had attained her maximum level of proficiency on the target skill to run and that instructional time would be better spent on a new target skill.

The decision to maintain the target skill to run resulted in the prescription of the target skill to walk up an inclined bench, illustrated in Figure 10. Instruction was initiated at a task 5 level (walks up) with complete manipulation. After 4 instructional sessions the physical assistance had been gradually decreased and S_1 was successfully completing the skill in response to a verbal cue. On the following session S_1 initiated this target skill in her free play. As seen in Figures 8, 9 and 10 the results of the post-assessment conducted by the program coordinator were in agreement with the records maintained by the parent staff member in all 3 target skills that had been prescribed.

Subject 2.

The target skills to ascend stairs and to jump down were initially prescribed for S_2 on the basis of the information obtained on the I.S.P. Figure 11 shows that instruction was initiated at a task 2

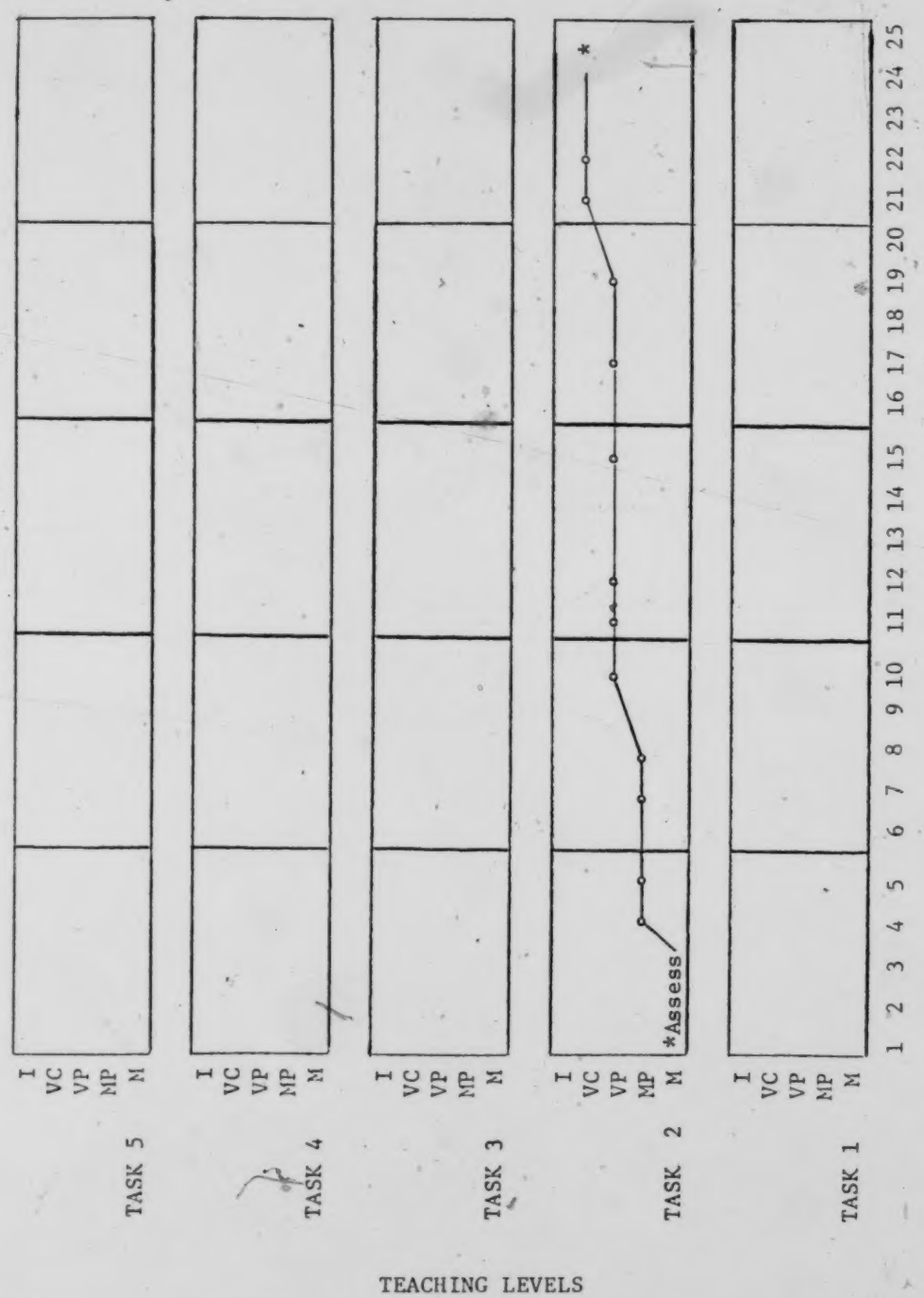

Figure 11. Performance Graph S_2 - Ascend Stairs

level (ascends stairs marking time with support) with a manipulative prompt. Over the 14 week period of program implementation S_2 had gradually progressed to completing this task level in response to a verbal cue.

The target skill to jump down graphically illustrated in Figure 12 was prescribed at a task 1 level (steps down off box of shin height) requiring a manipulative prompt. Following 6 instructional sessions during which no measurable improvement was demonstrated a decision was made to terminate instruction on this target skill. Two target skills to run and to ascend a ladder were prescribed in its stead. As indicated in Figure 13 instruction on the target skill to run was initiated at a task level 1 (moves 10 feet with a fast walk) following a demonstration. After 7 instructional program sessions S_2 had gradually progressed to a task level 3 (runs 20 feet with instances where neither foot is in contact with the floor) following a verbal cue.

Instruction was initiated on the target skill to ascend a ladder at a task 1 level (ascends 5 rungs marking time) with complete manipulation. Figure 14 shows that after 7 instructional sessions S_2 had progressed to a task level 2 (hands and feet alternately landing on same rung) in response to a verbal cue.

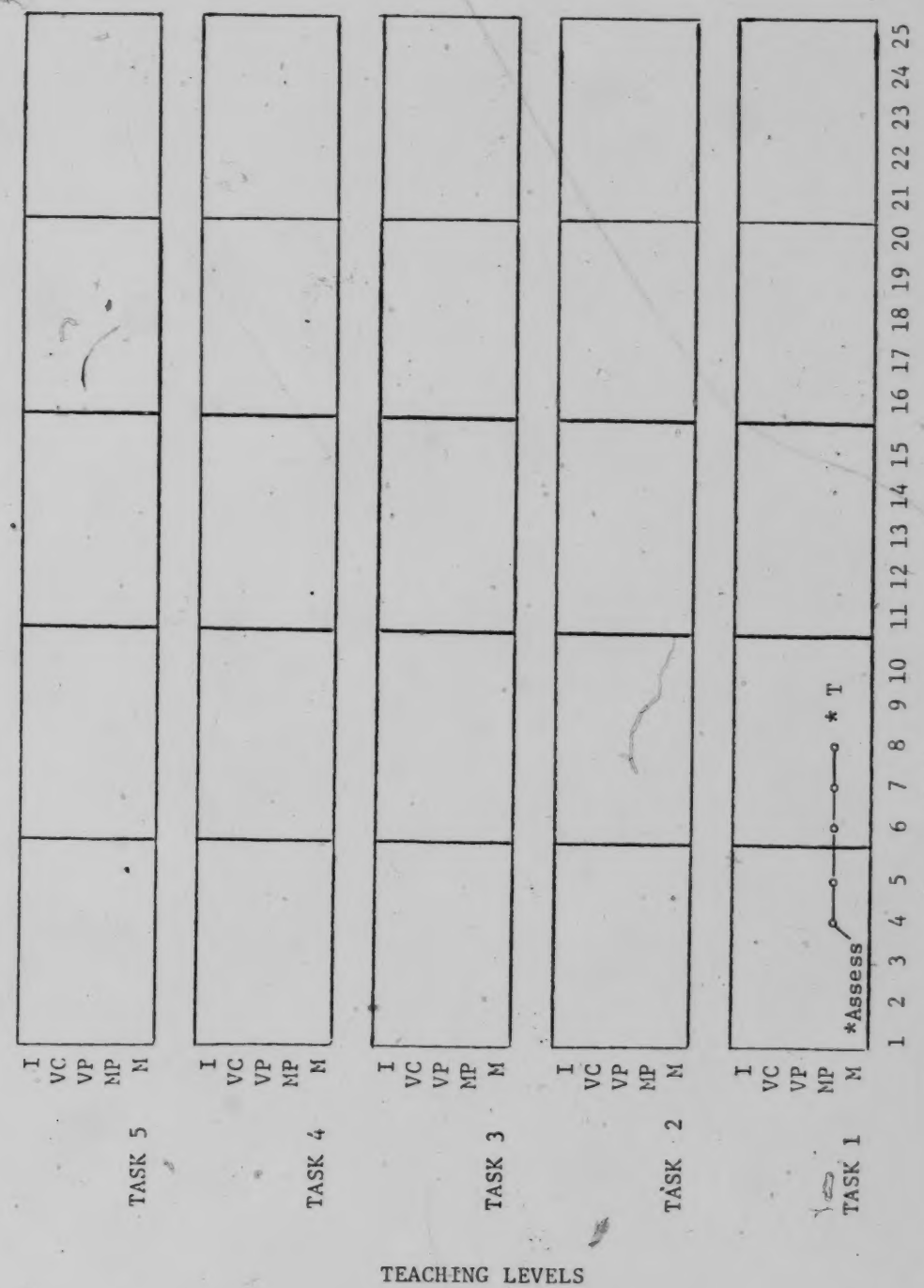

Figure 12. Performance Graph S_2 - Jump Down

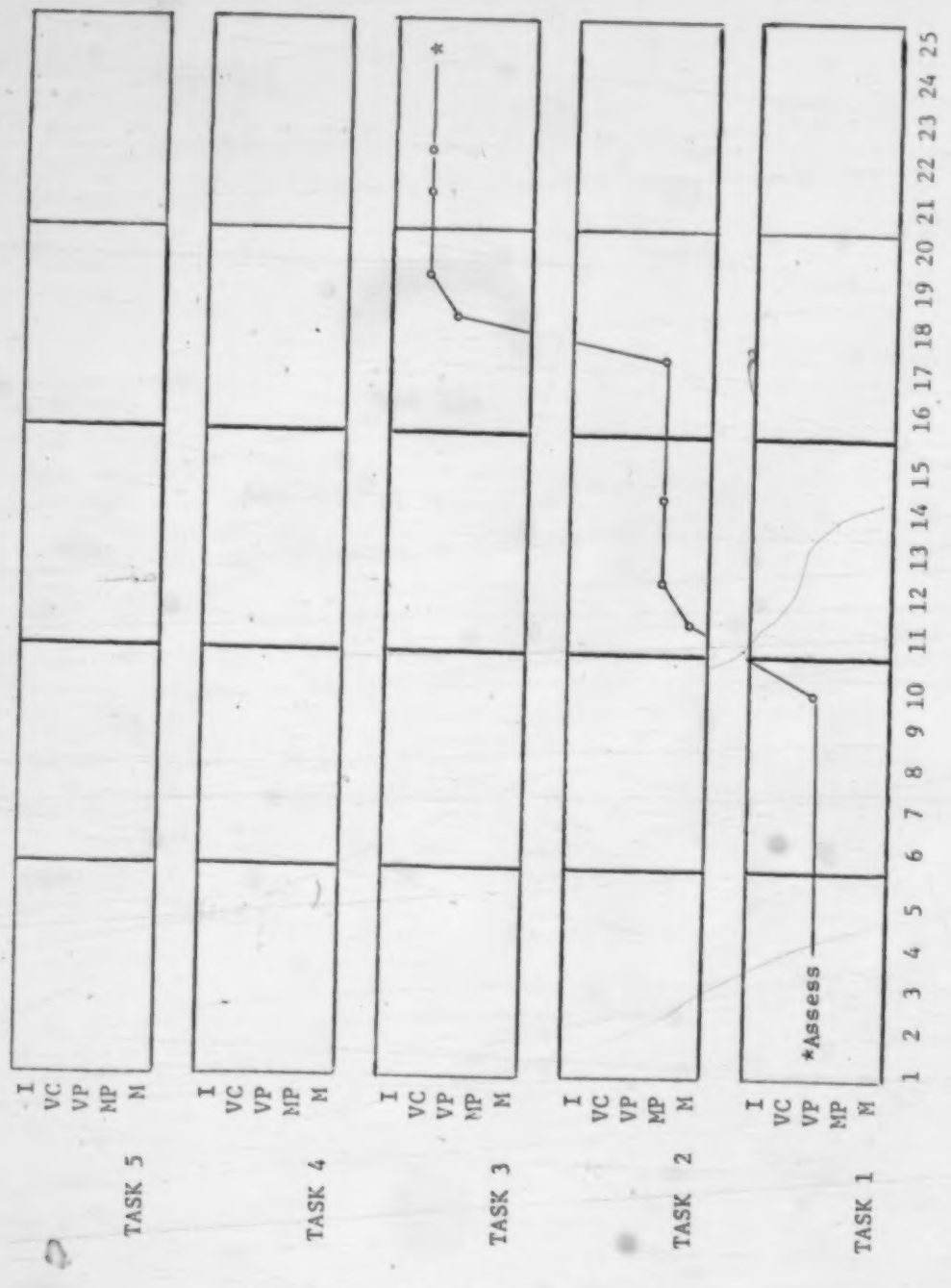

Figure 13. Performance Graph S_2 - To Run

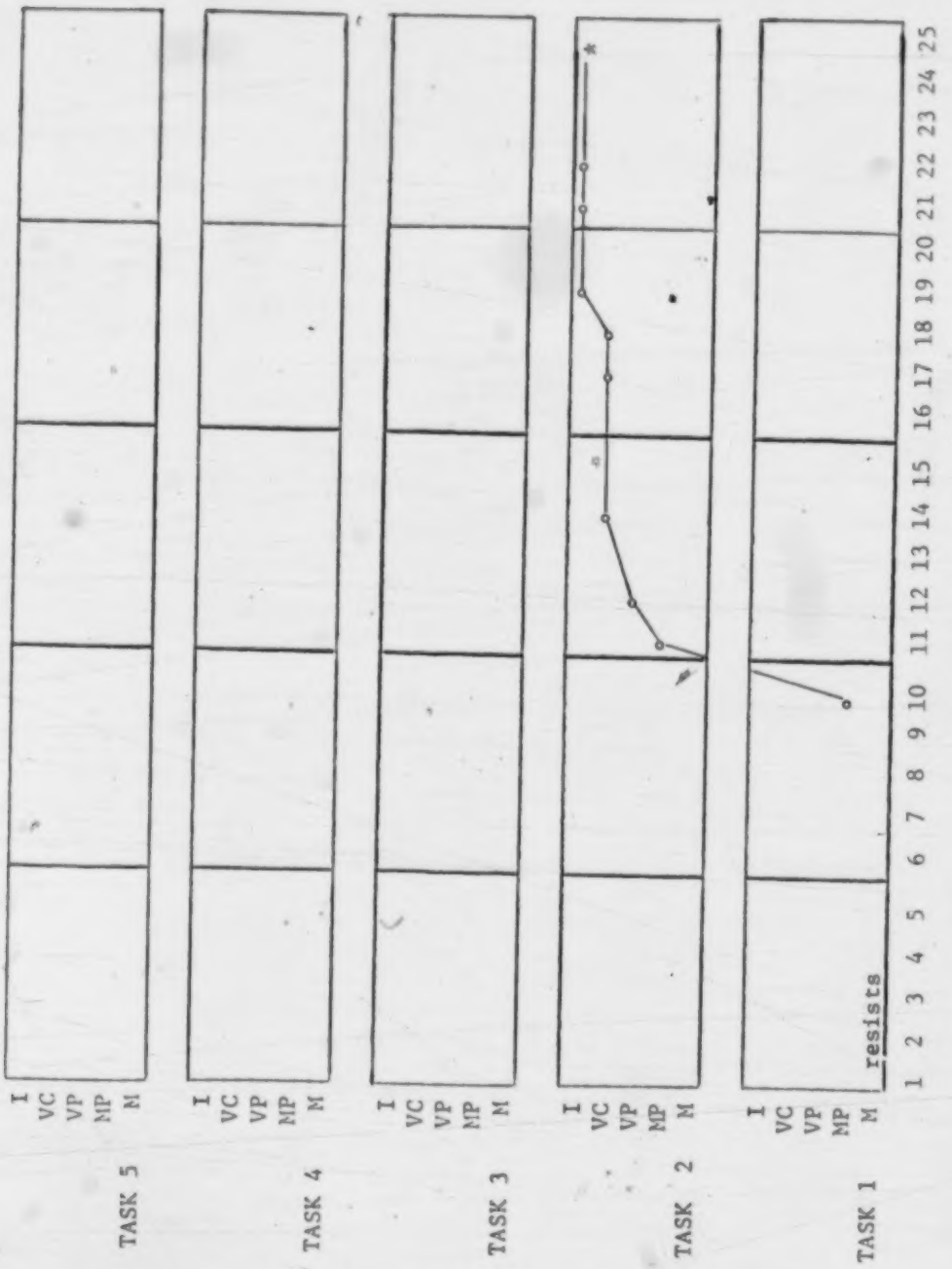

Figure 14. Performance Graph S_2 - Ascend a Ladder

As seen in Figure 11 the post-assessment conducted by the program coordinator on S_2 target skill to ascend stairs was in agreement with the record maintained by the parent. The post-assessment on the target skill to jump down, seen in Figure 12, indicated that no incidental progress had occurred after instruction was terminated. Post-assessments in Figures 13 and 14 were both in agreement with records maintained by the parent staff member.

Subject 3.

The target skills to run and to catch a tossed ball were prescribed for S_3. The performance information over the 14 week period of program implementation on the target skill to run is shown in Figure 15. Instruction was initiated at a task 2 level (fast walk moving arms bent at the elbows in opposition to legs) with complete manipulation. After 9 instructional program sessions S_3 had progressed to initiating a task 3 level (runs 20 feet with instances of non-support). The post-assessment conducted by the program coordinator was in agreement with this final record.

On the target skill to catch a small amount of progress was made over the 14 week period of program implementation as seen in Figure 16. Instruction began at a task 3 level (traps ball tossed between waist and

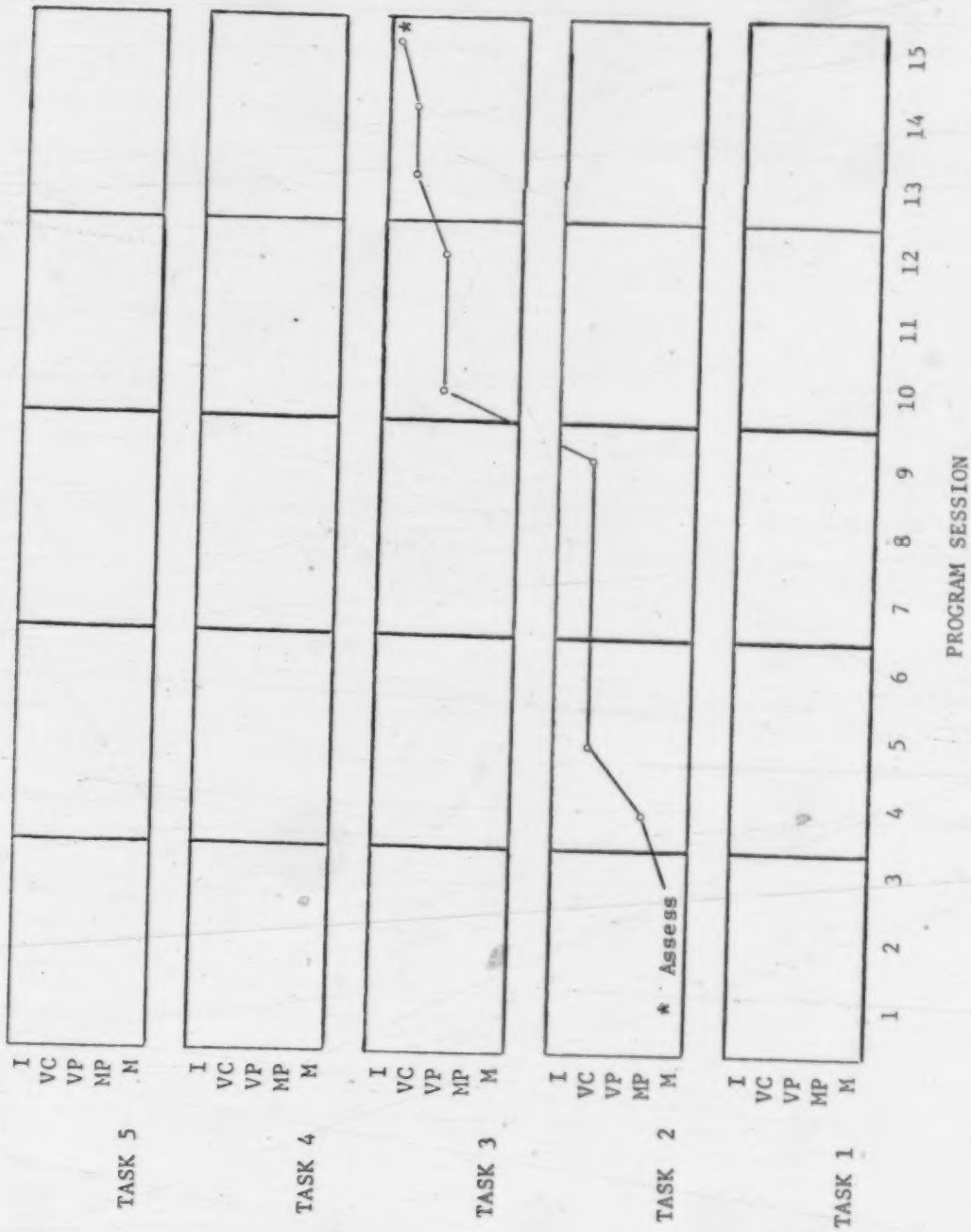

Figure 15. Performance Graph S_3 - To Run

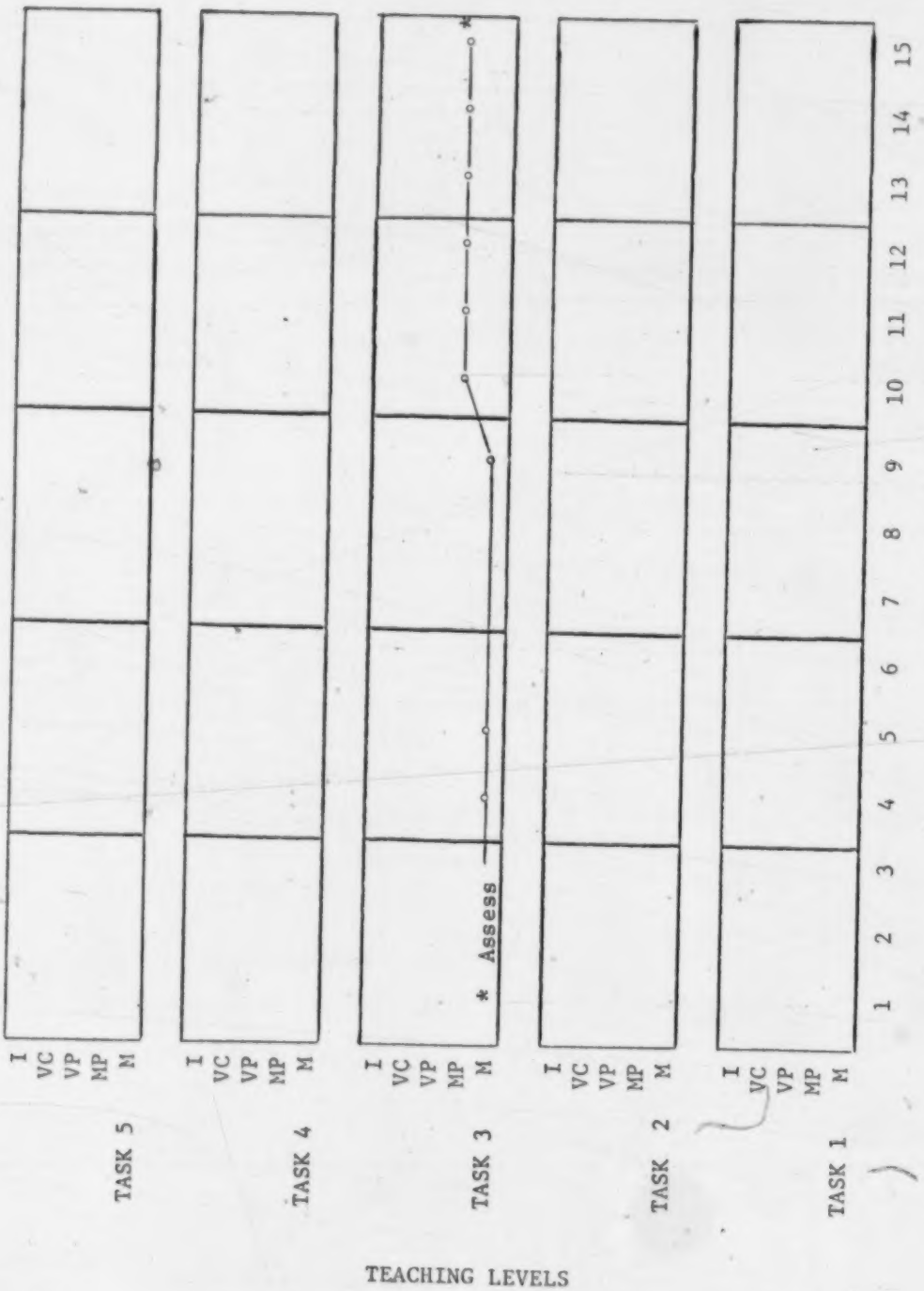

Figure 16. Performance Graph S_3 - To Catch

chest) with complete manipulation. After 9 program sessions S_3 was performing at a task 3 level with a manipulative prompt. Although little measurable improvement was recorded on this target skill, the parent staff member was constantly decreasing the amount of physical assistance provided at the task 3 level. The post assessment was in agreement with the final record monitored by the parent.

Subject 4.

The target skills to ride a tricycle and to ascend a ladder were prescribed for S_4. A graphic representation of the performance change exhibited on the target skill to ride a tricycle is provided in Figure 17. After 6 instructional program sessions S_4 progressed from task 1 (sits with feet on pedals while being pushed) with complete manipulation to task 2 (pedals after initial push) with a manipulative prompt.

Figure 18 represents the continuous performance information for S_4 on the target skill to ascend a ladder. On this skill S_4 was assessed at task step 1 (ascends and descends 5 rungs marking time) on request for both ascending and descending the ladder. The parent staff member was not interested in improving S_4's climbing technique, but rather in teaching him to step over the top of the A-frame so that he could move freely from climbing up to climbing

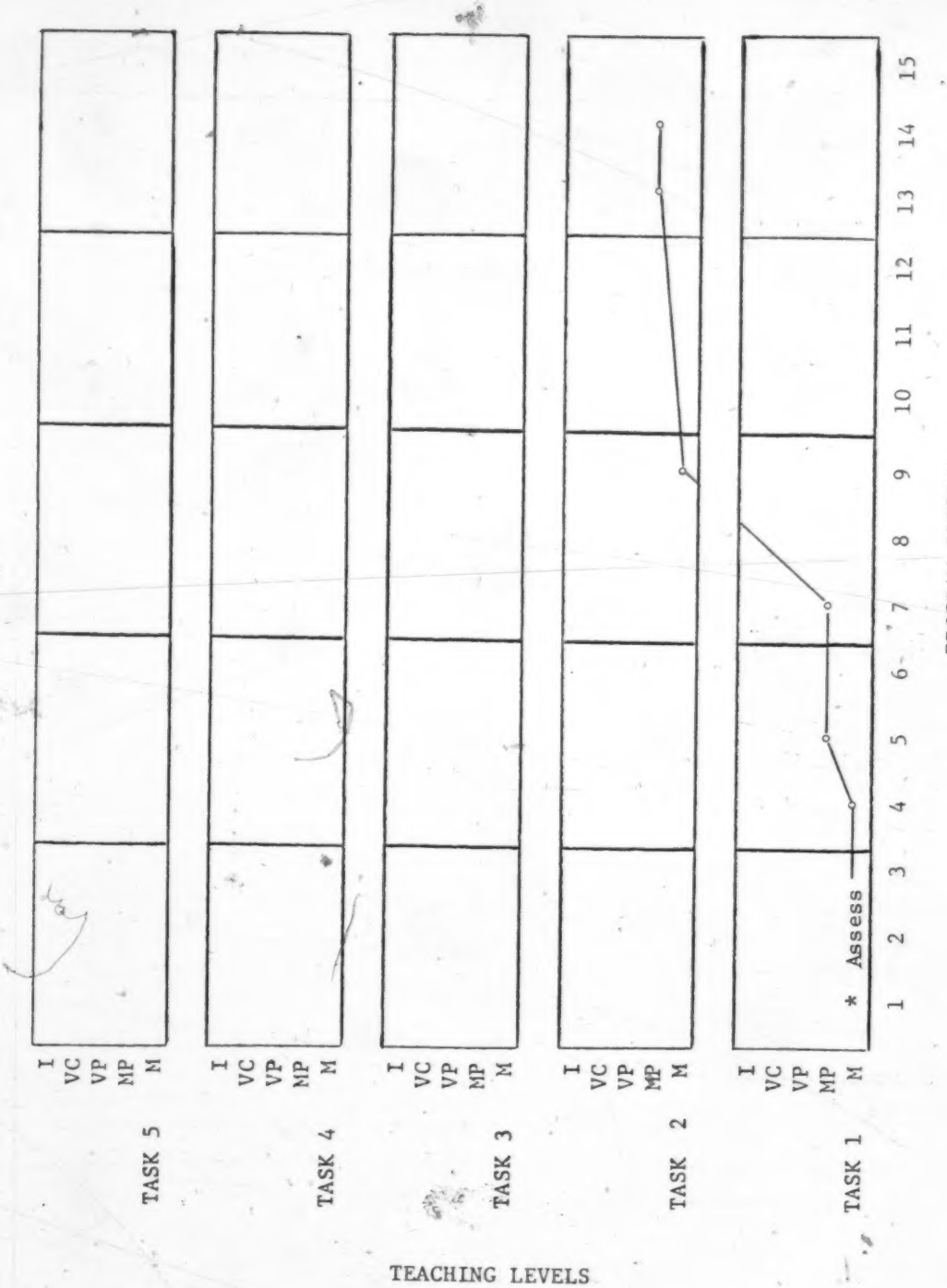

Figure 17. Performance Graph S_4 - Ride a Trike.

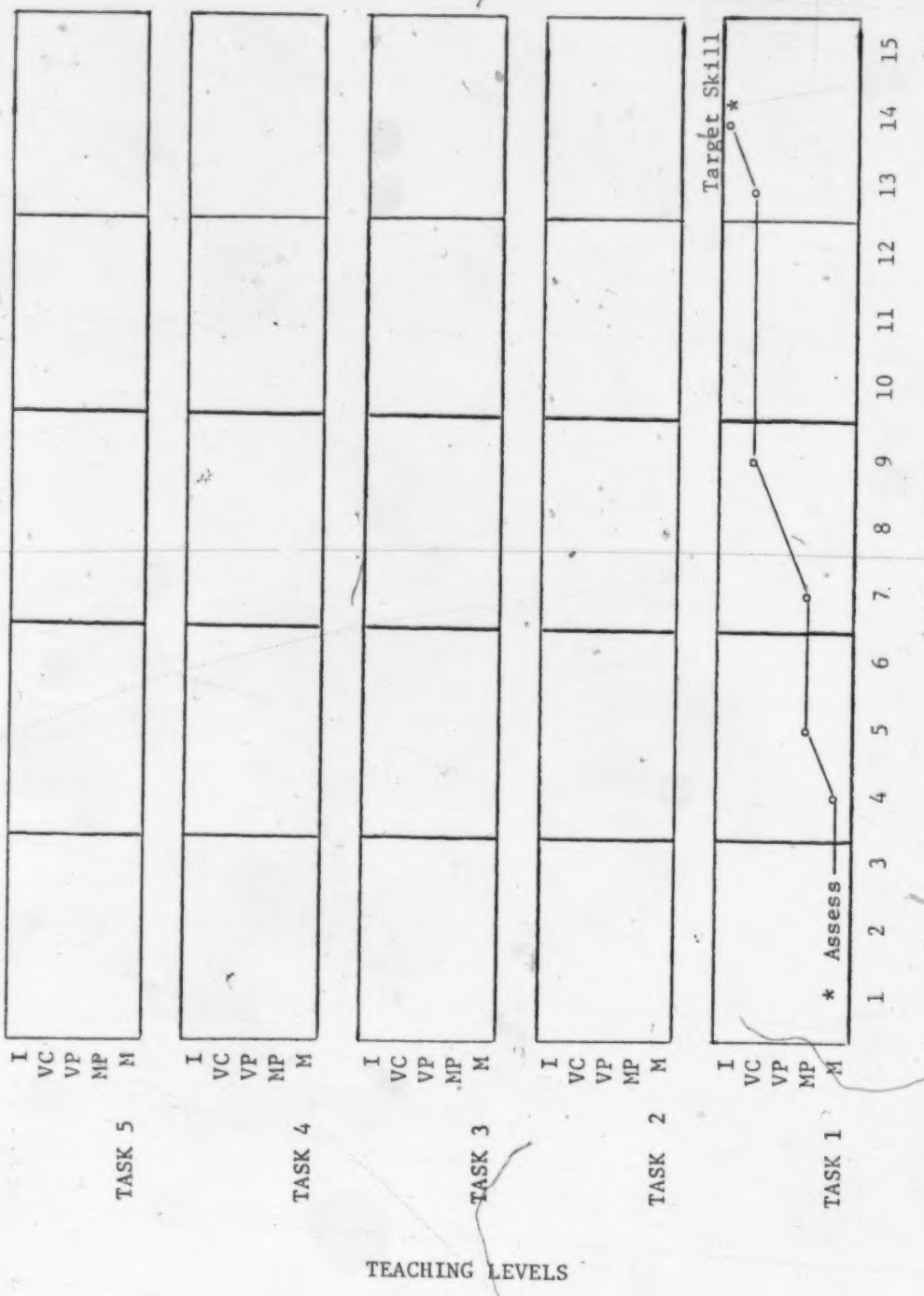

Figure 18. Performance Graph S_4 - Step Over A-Frame

down the other side. Because there was a similar A-frame at a local Y.M.C.A. program that S_4 attended, his lack of skill in stepping over the top of the A-frame hindered his activity level in both programs; it was therefore felt that this was an important skill for him to learn.

The response prompting continuum was applied to this skill in the following manner:

Target Skill: To step over the top of an A-frame ladder.

Task 1: After completing the ascent the child steps over the top of the A-frame and places hands in a position so that the child may descend the ladder.

M: Child is at the top of the A-frame. Instructor manipulates one leg then the other over the top of the A-frame. The child's hands are then moved one at a time so that the child is ready to descend the ladder.

MP: Tap the child's legs to initiate stepping over the top of the A-frame ladder. Then tap the hands to indicate to the child that the hands should also be moved over the top of the frame.

D: Provide an exaggerated demonstration of the legs stepping over the A-frame. Then demonstrate the hand movement.

VC: "Step over and turn around."

As can be seen in Figure 18, S_4 gradually progressed from requiring complete assistance to initiating the skill in a free play situation.

In both target skills the final record marked by the parent was in agreement with the post-assessment conducted by the program coordinator.

Subject 5.

The results of the assessment for S_5 indicated that he could successfully perform all of the target skills with the exception of ascending and descending a ladder. S_5 was assessed on ascending a ladder at a task 2 level (hands and feet alternately landing on same rung) with minimal assistance. He was assessed on descending a ladder at a task 1 level (marking time) on request. Although S_5's parent staff member did not maintain any instructional program records a pre-test/post-test comparative analysis shown in Figures 19 and 20 indicate that measureable improvement did occur at some point during the 14 week period of program implementation. During the final program session S_5 was assessed at initiating a task level 5 (alternating hands and feet simultaneously) on the target skill to ascend a ladder and at initiating a task 2 level (hands and feet alternately landing on same rung) on the target skill to descend a ladder.

Subject 6.

The results of the Home Skills Checklist indicated that the PREP Curriculum was not appropriate for S_6. On the basis of this checklist the target skills to

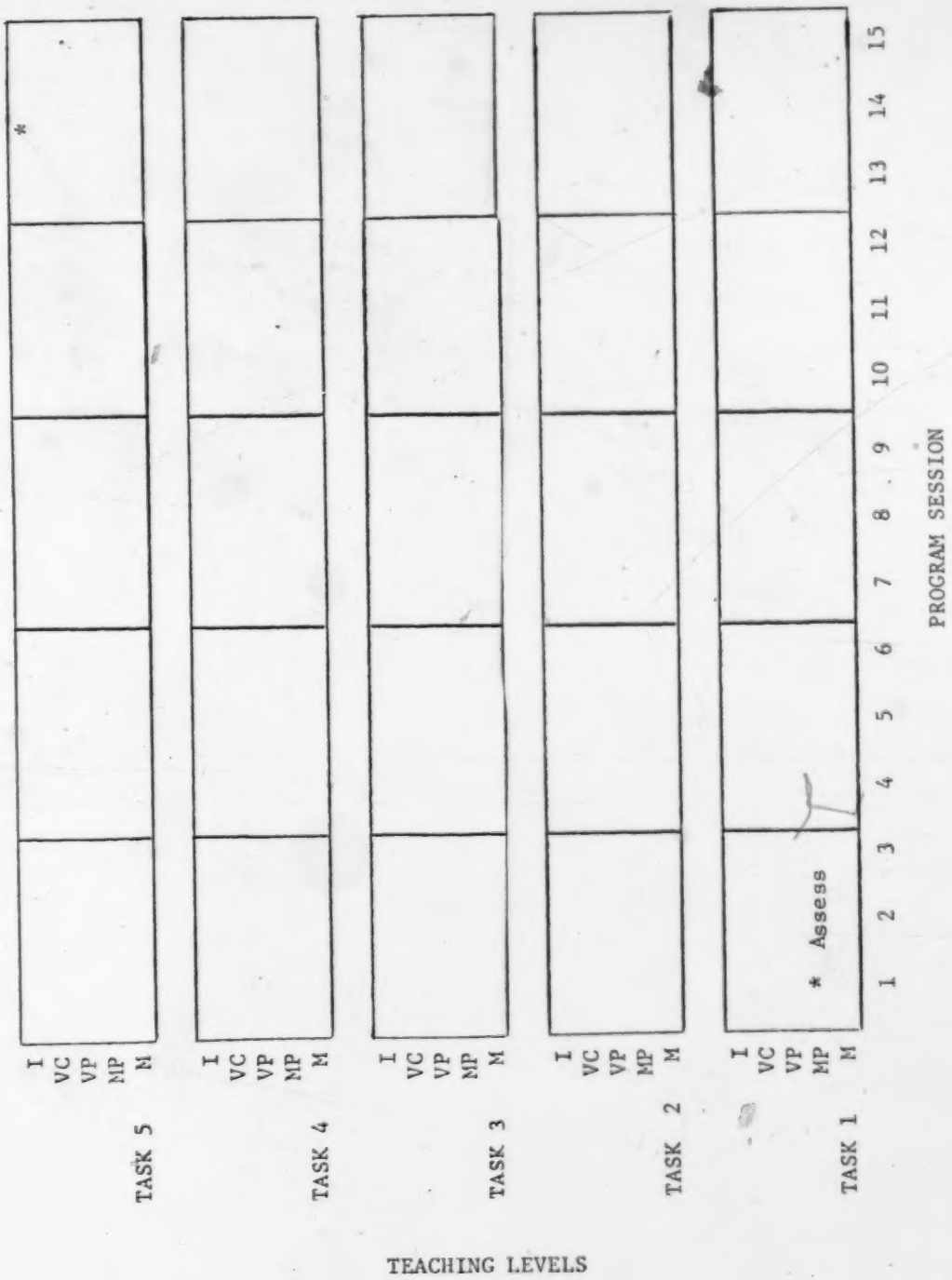

Figure 19. Performance Graph S_5 - Ascend a Ladder

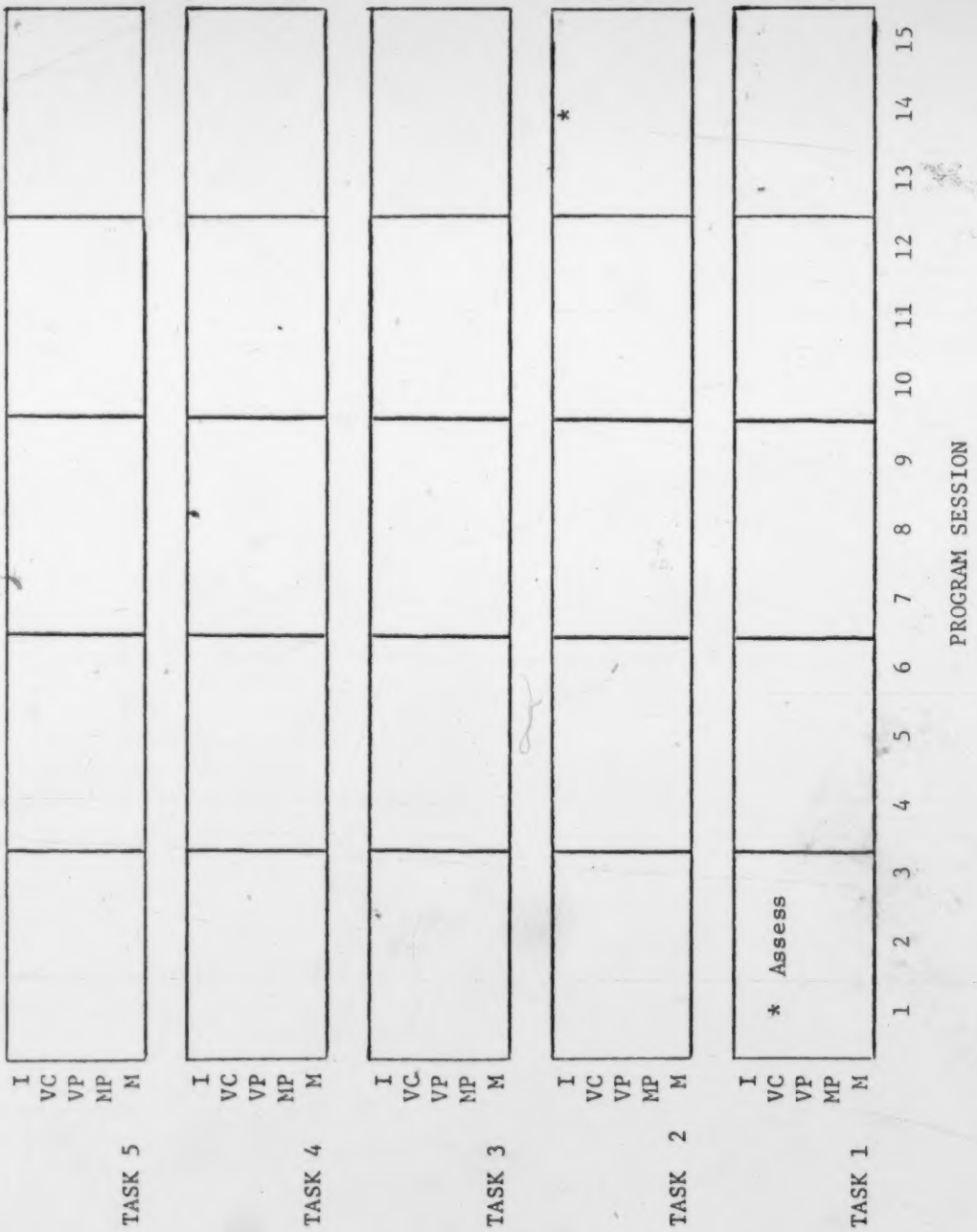

Figure 20. Performance Graph S_5 - Descend a Ladder

sit and turn to a crawling position, to crawl, to sit from lying on back, to sit from lying on front and to stand supported were prescribed for instruction.

The progress graphs maintained for S_6 are shown in Figures 21 through 25. As seen in Figures 21 and 22 S_6 successfully completed the target skills to sit and turn to a crawling position and to crawl after 5 program sessions.

Figures 23 and 24 illustrate the performance changes that were demonstrated by S_6 on the target skills to sit from lying on back and to sit from lying on front. Although some improvement was shown during the first 5 program sessions, S_6 resisted most instructional episodes on these target skills by crying and struggling. In both these skills S_6 could successfully complete the "pushes to a sitting position" phase of the task, but resisted all attempts to rotate to one side. At the end of the fifth program session a decision was made to identify an alternative approach to teaching this skill.

Although no further records were maintained on the target skill to sit up, a new approach was identified and by the 10th week of program implementation S_6 was initiating the target skill to sit up in both the

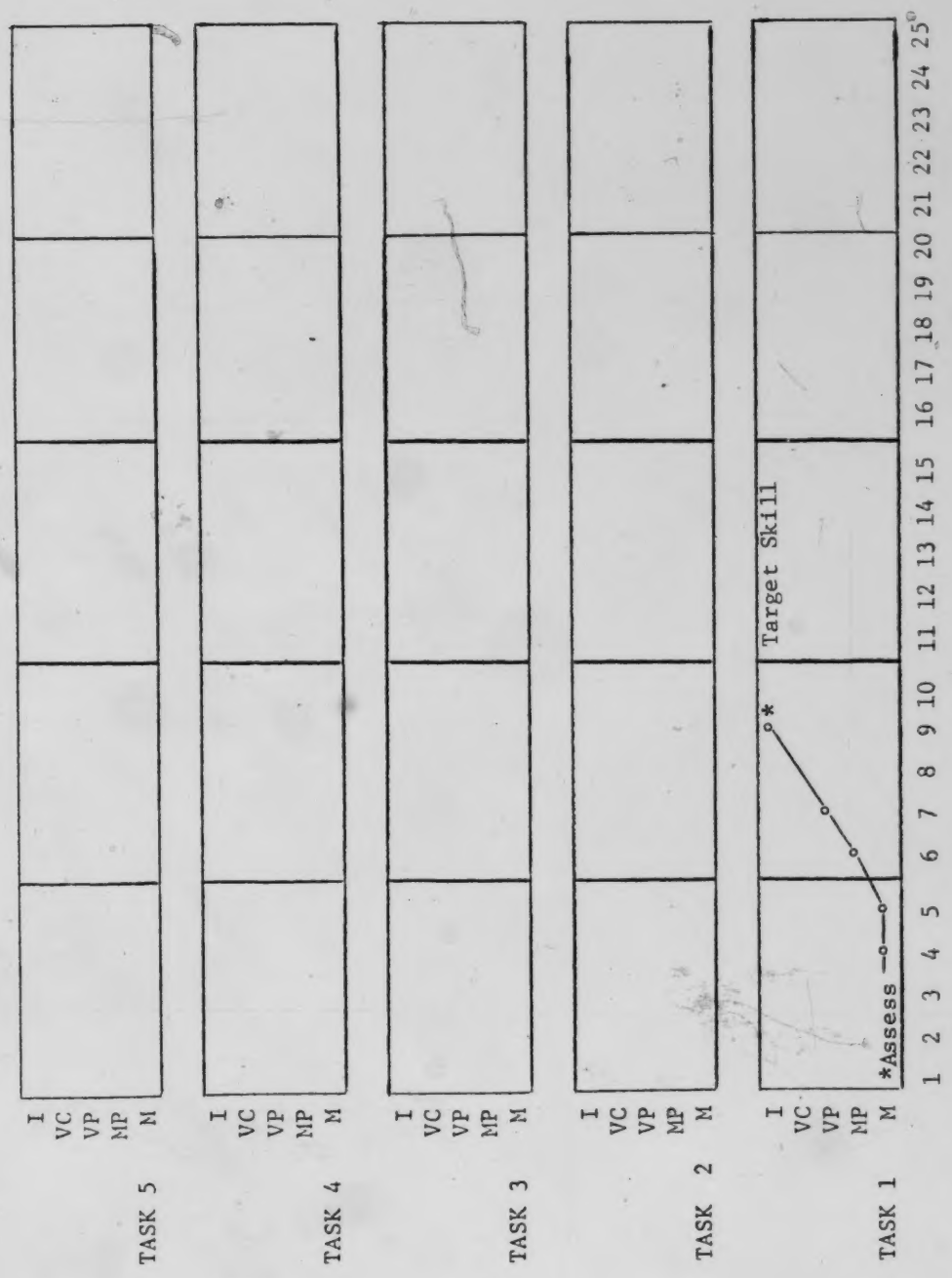

Figure 21. Performance Graph S_6 - Sit, Turns to Crawl

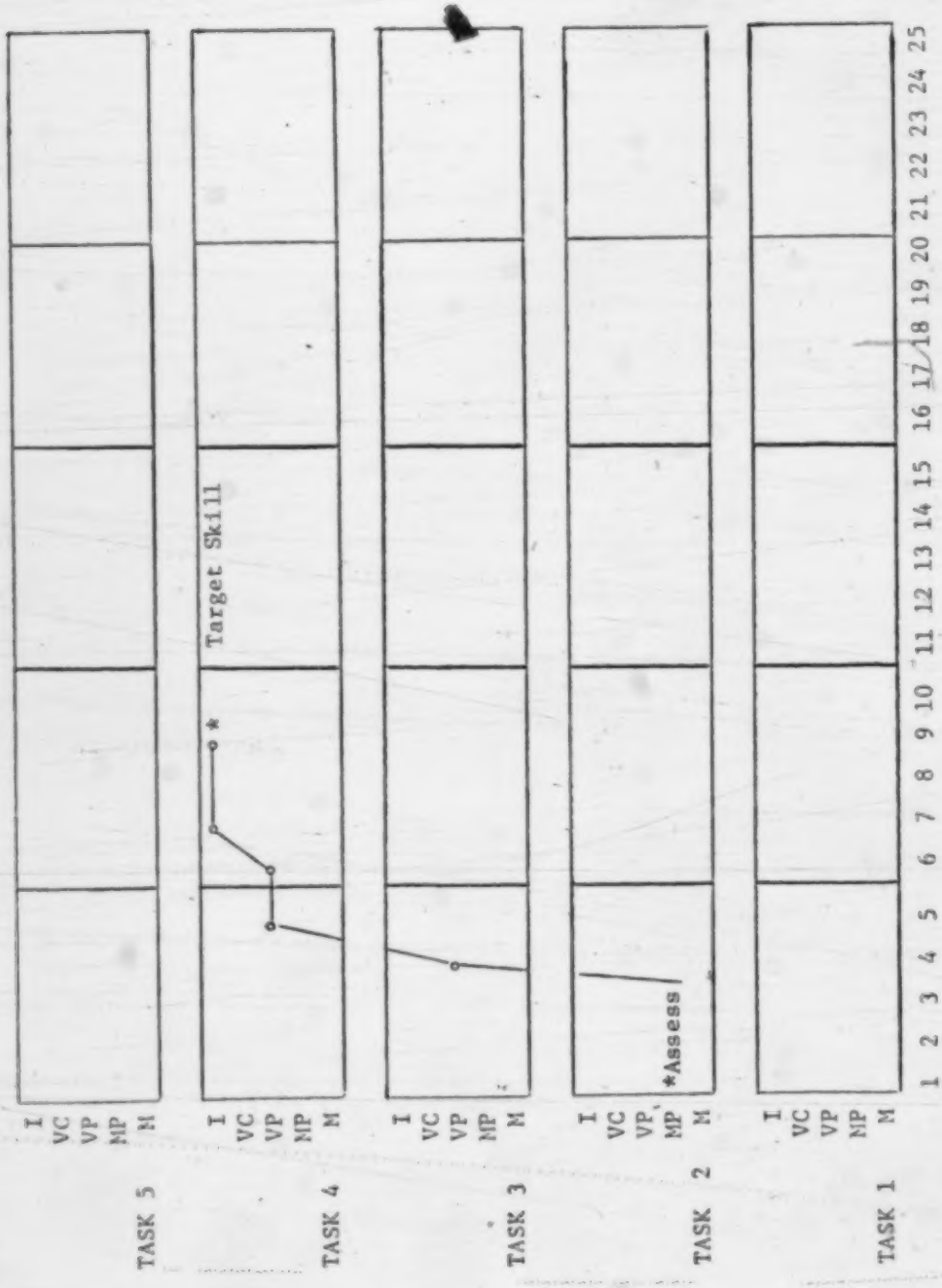

Figure 22. Performance Graph S_6 - To Crawl

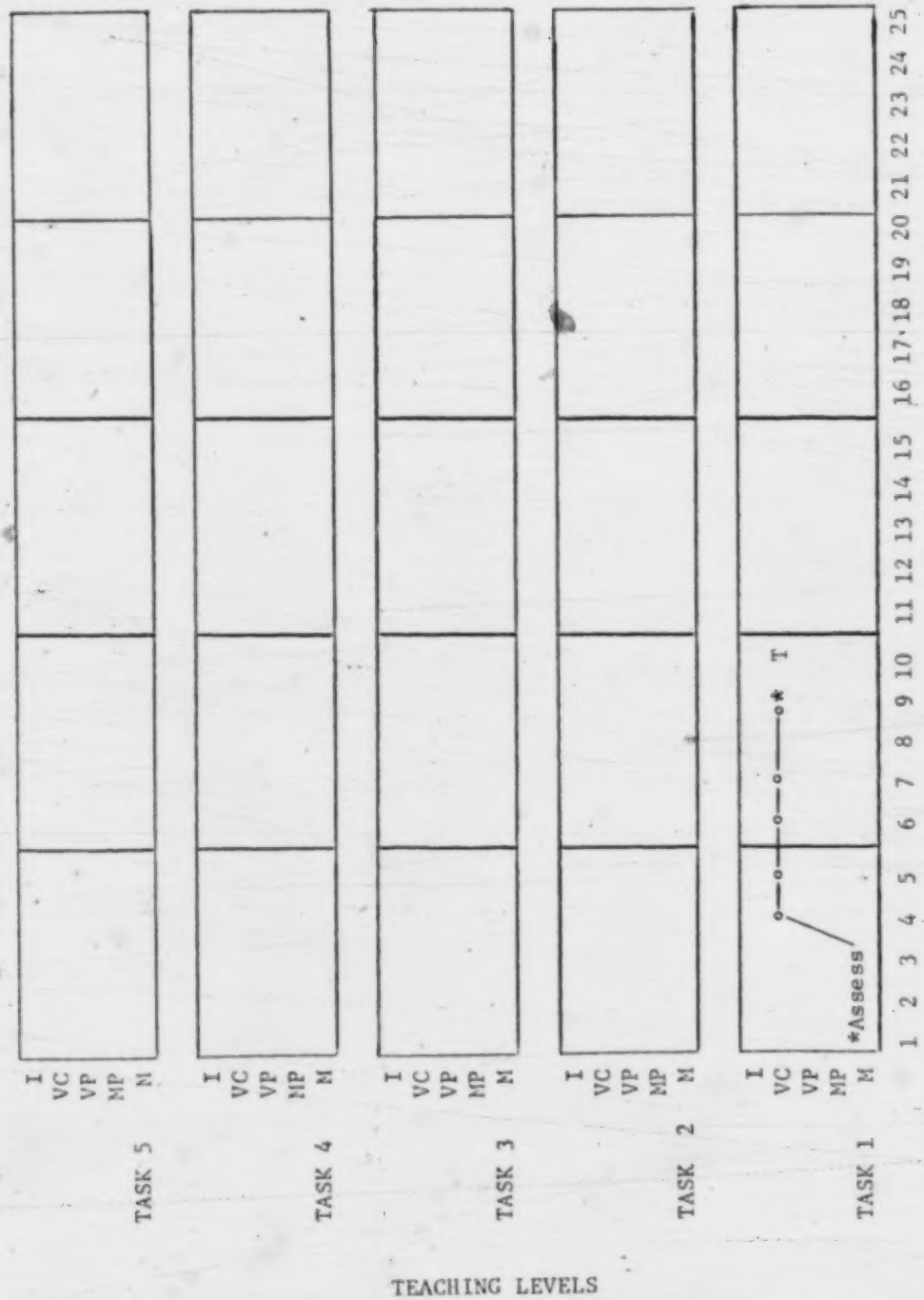

Figure 23. Performance Graph S_6 - Sit from Lying on Back

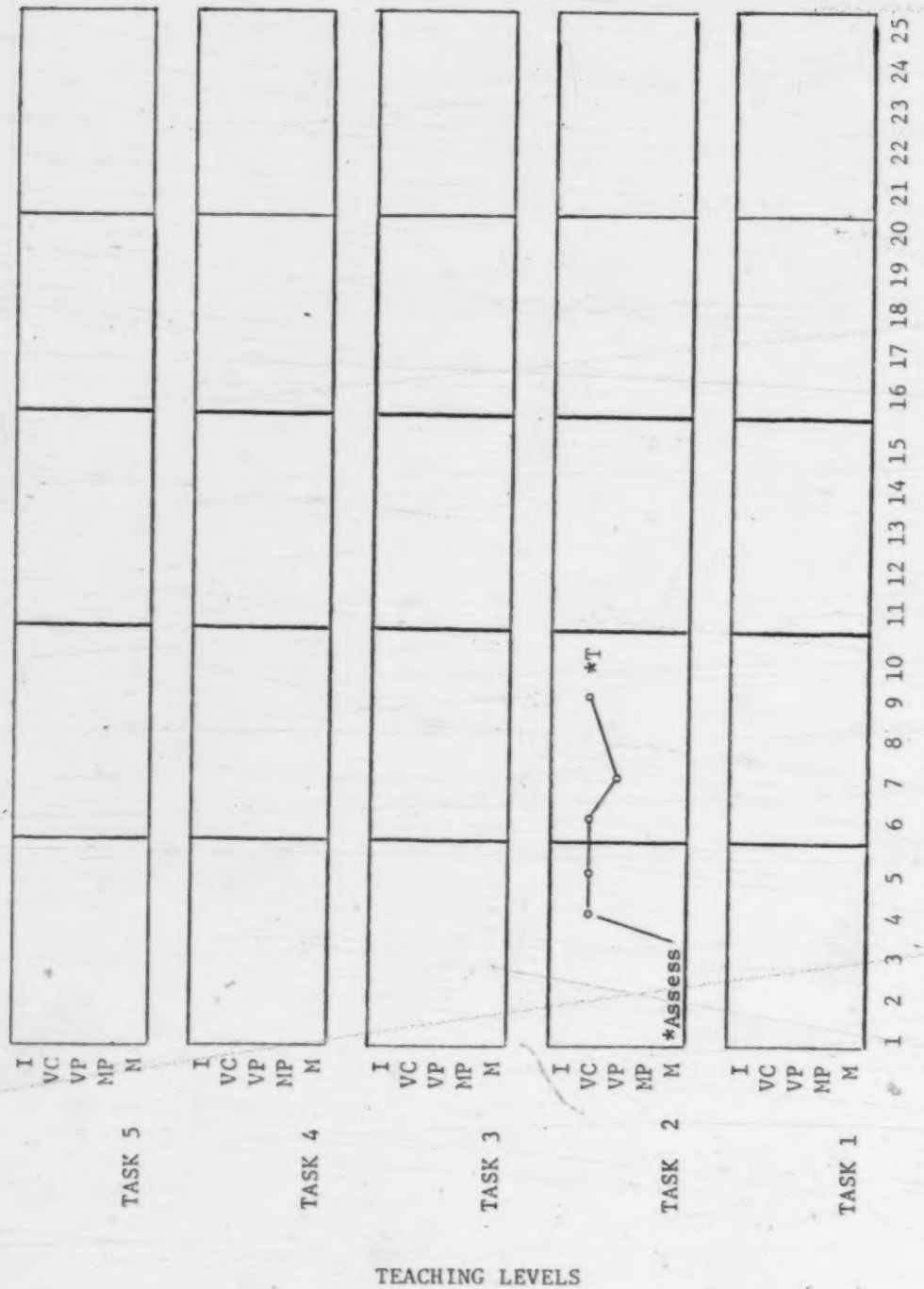

Figure 24. Performance Graph S_6 - Sit from Lying on Front

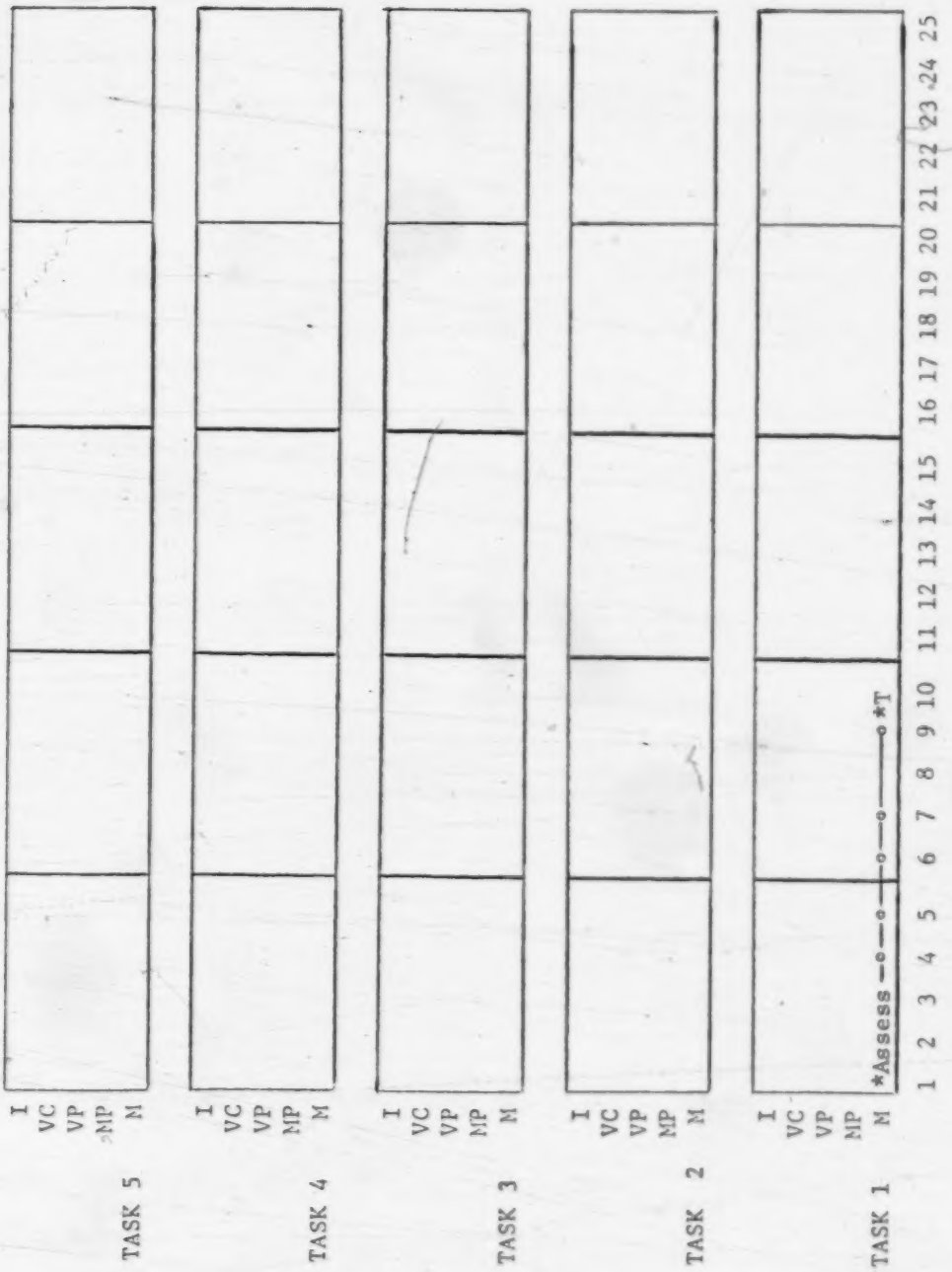

Figure 25. Performance Graph S_6 - Stand Supported

home and centre environments.

Figure 25 illustrates the performance changes demonstrated by S_6 on the target skill to stand unsupported. After the fifth program session, no change in performance had been recorded and a decision was made to re-evaluate the instructional sequence. An alternate instructional sequence was developed and a post-assessment indicated that by the end of the 14 week period of implementation S_6 was performing at a task level 9 (stands supported by a bench for 5 seconds).

Subject 7.

The results obtained from the Home Skills Checklist indicated that the target skills to crawl up stairs and to walk unsupported, were appropriate for S_7. The instructional sequences for these skills were developed from other motor programs designed for use with high risk infants (Fredericks, et al., 1976; Hanson, 1977). The progress graphs maintained for S_7 are shown in Figures 26 and 27.

Figure 26 shows that instruction began at a task level 1 (completely manipulate child up 4 stairs) in the target skill to crawl up stairs. After 7 program sessions S_7 was consistently crawling up stairs independently in both the centre and home environment.

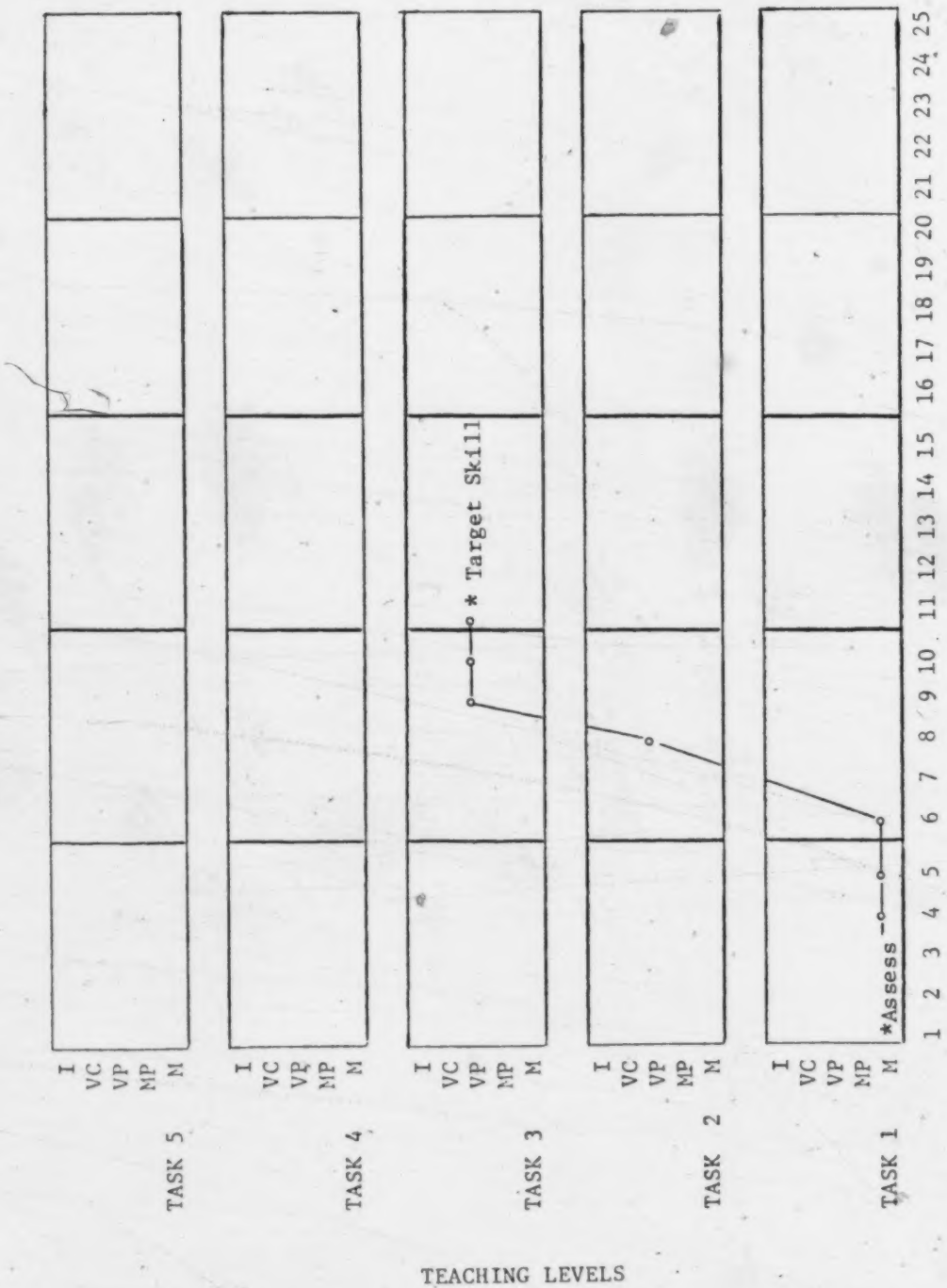

Figure 26. Performance Graph S_7 - Crawl Up Stairs

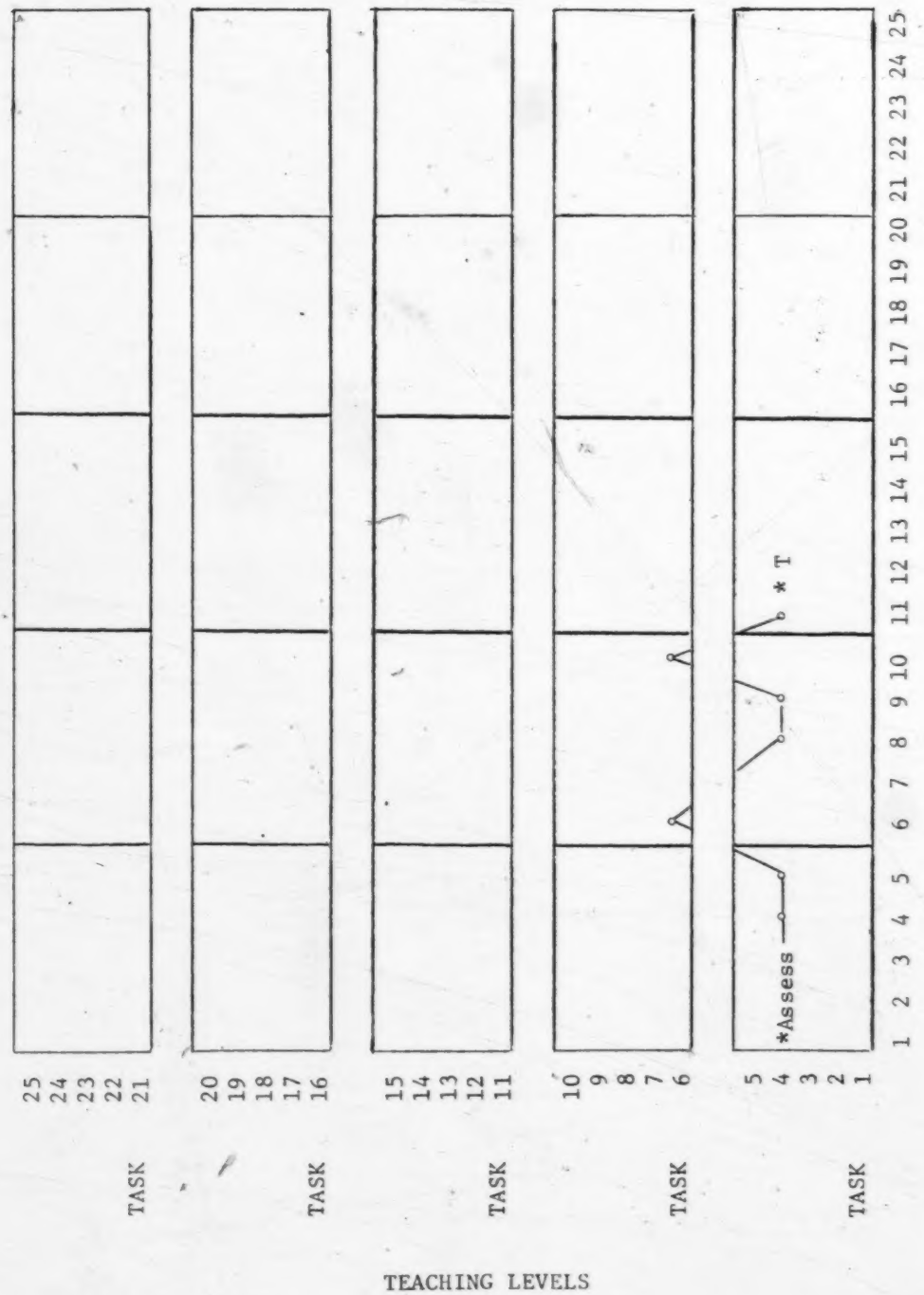

Figure 27. Performance Graph S_7 - Walk Unsupported

On the target skill to walk unsupported instruction was initiated at a task 4 level (child moves 2 steps forward with support of a cloth). Figure 27 graphically illustrates that no consistent progress was made on this skill during the 7 program sessions for which records were maintained. Re-evaluation of this program indicated that S_7 was teething and therefore tended to move the cloth into her mouth during each instructional episode. It was suggested to S_7's mother that rather than continue with the cloth, she might proceed with the instructional sequence using her hands for support. Although instruction continued in this manner, no further records were maintained. A post-assessment at the end of the 14 week period showed that S_7 could take 10 steps with the support of her mother's hands.

During the 8th week of program implementation the target skill to creep down the stairs was prescribed for S_7. Although at that time an instructional sequence had not been developed the response prompting continuum was applied in a manner similar to the sequence for crawling up stairs. After 6 program sessions S_7 was creeping down the stairs independently in both the home and centre environments.

3.2 Effectiveness of Training Program. The overall effectiveness of the evening training sessions was

evaluated through the use of questions 4 and 5 of Instrument 6. The results obtained in response to these questions are provided in Table 11. Six of the parent staff members (86%) indicated that the skills learned in the evening training sessions were of help at the centre. Eighty-six percent of the parent staff members also found these skills to be of help in the home environment. Five of the parents felt that they were exceptions due to their previous home-training; they felt that though they had gained some, the sessions would be very beneficial for those without previous training. One parent indicated that the Manual (Watkinson, 1976) alone would have been sufficient training. One parent felt that she had gained markedly as a result of participating in the evening training sessions. This parent noted:

> "I didn't know anything at all and certainly from all the stuff that you presented and from the book I learned alot."

3.3 Questions 1, 2, 3 and 6 of Instrument 6 indicated the degree of parental satisfaction with respect to specific program effects. Table 12 shows that 100% of the parents felt that their child had improved in motor play skills. Of the 7 parents, 4 noted their particular satisfaction with respect to the number of skills their child had acquired in such a short period of time. Six of the 7 parents

TABLE 11

PERCEPTIONS OF THE PARENTS REGARDING

THE HELPFULNESS OF THE TRAINING SESSIONS.

Question 1: As a result of participating in the evening training sessions I feel that the skills I learned are:

Response	Response Level	Number Responded	Percentage Responded
very helpful to me at the centre	a	1	14.3%
of some help to me at the centre	b	5	71.4%
of little help to me at the centre	c	0	0%
of no help to me at the centre	d	1	14.3%

Question 2: As a result of participating in the evening training sessions I feel that the skills I learned are:

Response	Response Level	Number Responded	Percentage Responded
very helpful to me at home	a	1	14.3%
of some help to me at home	b	5	71.4%
of little help to me at home	c	0	0%
of no help to me at home	d	1	14.3%

(86%) felt that their children had shown improvement in social play skills. These parents were particularly pleased with the manner in which the children began to share the space and the equipment.

All of the parents felt that they had gained in their ability to teach the children gross motor play skills. The parents indicated that they felt their improvement was due to the evening presentations, the practical experience and the availability of assistance. Four of the parents felt that their previous home-training had provided them with the basics, but they had improved some as a result from becoming involved in the PREP Outreach Program.

All of the parents felt that the program had fostered the level of community awareness with respect to their children's needs. The parents were particularly pleased with the newspaper article, but felt there was a long was yet to go before services would be provided in the Town.

Six of the parents listed three aspects of the program which they felt were most helpful:

a) direct parent participation,

b) involvement of siblings and fathers, and

c) having the program implemented at a centre in town.

TABLE 12

PERCEPTIONS OF THE PARENTS REGARDING

THE EFFECTS OF THE PREP OUTREACH PROGRAM

Question 1: As a result of participating in the PREP Outreach Program, I feel that my child has:

Response	Response Level	Number Responded	Percentage Responded
Shown marked improvement in motor play skills	a	4	57.1%
Shown some improvement in motor play skills	b	3	42.9%
Shown little improvement in motor play skills	c	0	0%
Shown no improvement in motor play skills	d	0	0%

Question 2: As a result of participating in the PREP Outreach Program, I feel my child has:

Response	Response Level	Number Responded	Percentage Responded
Shown marked improvement in social play skills	a	0	0%
Shown some improvement in social play skills	b	6	85.7%
Shown little improvement in social play skills	c	0	0%
Shown no improvement in social play skills	d	1	14.3%

TABLE 12 (cont'd)

Question 3: As a result of participating in the PREP Outreach Program, I feel that I (as a parent):

Response	Response Level	Number Responded	Percentage Responded
Have gained markedly in my ability to teach my child gross motor play skills	a	3	42.9%
Have gained some in my ability to teach my child gross motor play skills	b	4	57.1%
Have gained little in my ability to teach my child gross motor play skills	c	0	0%
Am no better able to teach my child gross motor play skills	d	0	0%

Question 4: As a result of initiating the PREP Program in my community I feel that:

Response	Response Level	Number Responded	Percentage Responded
The community is now very aware of my child's needs	a	2	28.6%
Some community awareness has been fostered	b		
Little community awareness has been fostered	c	5	71.4%
The community is no more aware of my child's needs than before the program was initiated	d	0	0%

One parent when asked about the most helpful aspect of the program responded as follows:

> "I found both the evening training sessions and the Saturday morning gathering very helpful. These sessions have allowed us to learn more about our child."

Of the 7 parents, 3 indicated that they could not respond to question 8 - "What aspects of the program did you feel was the least helpful and why?" One such parent noted:

> "I couldn't answer that question...I didn't know...Everything has been of some help and I don't know which was of the least because everything was so good."

Two of the parents indicated that they would like to see the program records administered in a more structured manner. They felt that they had been lax in recording and suggested that records be maintained and turned in to the coordinator at each program session. One parent suggested that the program should obtain more sophisticated pieces of play apparatus and one parent indicated that one session per week was not enough.

General Comments. All of the general comments with respect to the implementation of the PREP Outreach Program were positive. Some of the comments were as follows:

> "Excellent...I think its a really good program...Even I'm getting lots out of it...You don't have to get a babysitter

all the time and all my kids really enjoy it and_____is really coming up in her motor skills...Even her teachers at school noticed it."

"I'm glad I came out...I'm glad we participated in it...I wasn't too sure before we started and I'm sure about it now...I don't know why we were lucky enough to be chosen."

"It's super...I'm glad you decided to come out here...It's really helped _____and I have enough skills now that I could help her in a playground and at home."

"I think its a super program...I just hope its continued."

"Its needed to help the kids look and act like they fit in with everybody else."

Instrument 7 was distributed to the parents so that they could indicate the amount they felt they had learned during the 14 week period of program implementation. As seen in Table 13 86% of the parents felt that they had gained some knowledge of principles of individualized instruction, 100% felt that they had gained with respect to how motor skills are learned and with respect to what to say or do before the child performs. Seventy-one percent of the parents felt that they had gained in regards to their understanding of how to consequate the child's performance and 86% had improved in their knowledge of how to record the child's performance. One hundred percent of the parents felt they had improved with respect to assessments and prescription

TABLE 13

PERCEPTIONS OF PARENTS REGARDING IMPROVEMENTS IN KNOWLEDGE OR UNDERSTANDING OF INSTRUCTIONAL SKILLS

Question 1: Knowledge of principles of individualized instruction.

Perceived Improvement Score	Number Responded	Percentage Responded
0	1	14.3%
1	6	85.7%
2	0	0%
3	0	0%

Question 2: Knowledge of how motor skills are learned.

Perceived Improvement Score	Number Responded	Percentage Responded
0	0	0%
1	4	57.1%
2	3	42.9%
3	0	0%

Question 3: Understanding of what to say or do before your child performs.

Perceived Improvement Score	Number Responded	Percentage Responded
0	0	0%
1	5	71.4%
2	2	28.6%
3	0	0%

TABLE 13 (cont'd)

Question 4: Understanding of what to say or do after your child performs.

Perceived Improvement Score	Number Responded	Percentage Responded
0	2	28.6%
1	4	57.1%
2	1	14.3%
3	0	0%

Question 5: Knowledge of how to record your child's performance.

Perceived Improvement Score	Number Responded	Percentage Responded
0	1	14.3%
1	4	57.1%
2	2	28.6%
3	0	0%

Question 6: Knowledge of how to assess your child and choose a target skill for instruction.

Perceived Improvement Score	Number Responded	Percentage Responded
0	0	0%
1	4	57.1%
2	3	42.9%
3	0	0%

of appropriate target skills. Five of the parents indicated that they felt that their entry skills had been quite high due to previous home training, but that they had certainly gained in all aspects as a result of being directly involved in the program.

3.4 Program Continuation. The results obtained from question 9 of Instrument 6 are provided in Table 14. All of the parents indicated that they would like the PREP Outreach Program to be continued. Forty-three percent of the parent staff members desired the program be continued to the end of June, throughout the summer and in the fall and 57% indicated that they would like to break for the summer months and continue in the fall.

3.5 A meeting was held with a representative of the Town Recreation Department at the end of the 14 week period of program implementation. At the meeting the representative indicated that he had received a letter from the parents as a group requesting that the PREP Outreach Program be continued. The representative pledged that the Town Recreation Department would do its utmost to ensure the continuation of the program.

TABLE 14

PERCEPTIONS OF THE PARENTS REGARDING

PROGRAM CONTINUATION.

Question: Would you like the program to:

Response	Response Level	Number Responded	Percentage Responded
be continued to the end of June, then throughout the summer and next fall	a	3	42.9%
be continued to the end of June and then started up again next fall	b	4	57.1%
be terminated now	c	0	0%

CHAPTER VI

DISCUSSION

Analysis of Congruence

In accordance with the Stake (1967) Countenance Model of Evaluation, an analysis of congruence was completed at each level of program development: antecedent, transaction and outcome. The congruence information is discussed at each program level with respect to: (a) the relationship between intent and observation and (b) the relationship between standard and observation.

1. Antecedents

The results of the antecedent congruence analysis are shown in Figure 28. Each of the observed program variables were judged to be congruent with the intended program design. The location was a rural community; the participants were preschool aged, trainably mentally retarded children living within the community; the parents of the children were directly involved as staff members; the facility, equipment and materials were arranged for by the PREP Program Staff; financing was provided from a research grant; a schedule was developed on the basis of the availability of participants, parents and the facility; and community support was pledged. Although the antecedent statement of observations was congruent with the statement of intents,

INTENT	CONGRUENCE	OBSERVATION	CONGRUENCE	STANDARD
1.1 Rural location	yes	34 km. from downtown Edmonton	yes	32 km.
1.2 Participants a. preschool aged b. trainable mentally retarded c. living in rural community	a. yes b. yes c. yes	a. C.A. = 1- b. 100% c. N = 7	a. no b. yes c. yes	a. C.A.3-7 years b. special education experience c. N = 5
1.3 Staff -parents or caregivers of each child	yes	Average of one parent of each child	yes	at least one parent or caregiver of each child
1.4 Facility, equipment and materials arranged by PREP staff	a. yes b. yes c. yes	a. Masonic Hall b. 80% c. 100%	a. no b. yes c. yes	a. 40' x 20' x 12' - 100 sq. feet b. 75% of recommended list c. 100% of recommended materials
15. Financing from research grant	yes	Research grant - $8,200.00 from Alberta Recreation & Parks	yes	Research grant - $8,200.00 from Alberta Recreation & Parks
1.6 Schedule drawn considering availability of facility, parent, child	yes	56% 1 session/week 44% 2/sessions/week	no	2 sessions per week 1.5 hours per session
1.7 Support from recreation department and community agencies	a. yes b. yes	a. Recreation Department - pledge of administrative nature b. volunteer from advocate agency	a. no b. yes	a. Recreation Dept. - assistance of administrative and participatory nature b. volunteer from advocate group

Figure 28. Antecedents: Analyses of Congruence

there were four sources of incongruence when the observations were compared to the predetermined standards of excellence.

Variable 1.2 a refers to the ages of the program participants. Although all of the children were preschool aged, Table 1 indicates that Subjects 2, 6 and 7 were younger than the PREP Program age specification of 3 years. A home-skills checklist, provided in Appendix C was developed to determine the extent of this discrepancy. The results of the checklist indicated that the PREP curriculum was suitable for Subject 2, but the skills were too advanced for Subjects 6 and 7. As suggested by Provus (1969) this discrepancy was reduced by modifying the original standard of the antecedent variable 1.2 a to include children between 1 and 3 years of age. The decision to modify the standard was based on the difficulty that was encountered in the identification of an appropriate rural community; that is the narrow definition of "preschool" was a definite limitation in the selection of a location. The modification resulted in the development of program materials that were based on other high risk infant studies (e.g. Hanson, 1977) and revised to be compatible with the PREP Curriculum format.

Figure 28 shows that a second area of incongruence can be seen in variable 1.4 with respect to the dimensions of the play facility. Although the play room dimensions exceeded the 40 feet in length, 20 feet in width and 12 feet in height, Table 3 indicates that the storage area did not meet

the 100 square feet estimated standard. Although this standard was arbitrarily estimated and therefore not stringent, there was insufficient storage space in the hall to accomodate the play equipment. This discrepancy was reduced with the provision of funding from the local Kinsmen and Kinnette Associations. This funding was used to purchase materials with which a group of fathers constructed some large pieces of play apparatus, including a large wooden box for climbing. This box not only served as a base for the wooden incline, but it was hollow so that it could be used to store smaller toys and equipment.

A third area of antecedent incongruence noted in Figure 28 can be seen in variable 1.6. Although the intent was that the schedule be based on the availability of parents, children and the facility, the observed schedule does not meet with the predetermined standard. Fifty-six percent of the parents indicated that their children attended weekday educational programs and would be available for PREP only on Saturday mornings. Although one session per week was not viewed as ideal, it was felt that this situation may be typical of the availability of children to participate in programs not associated with the school they are attending. In an attempt to reduce this discrepancy parents were encouraged to instruct and record progress on the PREP skills in the home environment. However, home-session records were not maintained.

Variable 1.7 illustrates the fourth source of

observation - standard incongruence. Although direct support and involvement was requested of the Town Recreation Department, only administrative support was pledged.

2. Transactions

An analysis of the congruence of the various transactions is summarized in Figure 29. The observed staff training program was well attended and the parent staff members judged each session as effectively meeting its intended purpose.

The observed assessment, prescription and instruction aspects of program implementation were judged to be congruent with both the intended program design and the predetermined time standards. Although the instrument of assessment needed modification and new target skills had to be designed for Subjects 6 and 7, the techniques of individualized instruction were applied through the use of the response prompting continuum for all of the program participants.

The observed variable 2.2 d was judged incongruent when compared to both the intent and standard. As seen in Table 9 the parents of Subjects 6 and 7 recorded 18% and 32% of the total sessions attended. A visual analysis of the progress graphs for these subjects (provided in Figures 21 through 27) indicates that the parents maintained records until the performance information revealed that some of the new sequences were not suitable for the children. Modified

INTENT	CONGRUENCE	OBSERVATION	CONGRUENCE	STANDARD
2.1 Staff training 3 two-hour training seminars -stated purpose	yes	3 two-hour seminars a. $\bar{x}$ = 90.6 attendance b. $\bar{x}$ = 86% satisfied	a. yes b. yes	a. 80% attendance b. 80% will judge them to be effective
2.2 Program implementation a. assess b. prescribe c. instruct d. record e. provision of assistance f. attendance	a. yes b. yes c. yes d. no e. yes f. yes	a. assess b. prescribe c. instruct d. $\bar{x}$ = 65% recorded e. assistance provided but inadequate response from parents f. $\bar{x}$ = 77.3% sessions attended	a. yes b. yes c. yes d. no e. no f. yes	a. first 3 sessions b. 2 target skills c. begins on 5th session d. 100% of sessions attended e. 80% of parents satisfied f. 75% attendance
2.3 Maintain community involvement	yes	visits by representatives of: Newspaper Kindergarten Early education program Friends Relatives Other concerned parents Recreation Department Kinette volunteer	no	Volunteers from recreation department and advocate group should attend 80% training sessions and 80% program sessions

Figure 29. Transactions: Analyses of Congruence

techniques were identified, suggested and implemented for the purpose of designing appropriate instructional sequences (Shatz, 1979).

Records for S_5 were maintained for 25% of the total sessions attended. The initial assessment procedure for this child indicated that the target skills to ascend and descend a ladder were the only skills that could not be successfully completed. Although these target skills were prescribed for instruction continuous program records were not maintained. The results of a pre-program post-program assessment comparison revealed that measurable improvement had occurred.

Program records were maintained for S_1, S_3 and S_4 for 100% of the program sessions attended. Records for S_2 were maintained for all but the last four program sessions.

It was intended that assistance be provided to the parent staff members via a program coordinator. This aspect of the program was measured through Instrument 5 which was to be returned by mail. The three families who returned the form indicated that they were satisfied with the amount of assistance provided them. However, the response to this instrument was inadequate to draw conclusions on the overall degree of parent satisfaction.

It was estimated that each family should be represented at 75% of the program. The attendance record provided in Table 9 indicates that an average of 77% of the program sessions available were attended by all of the participating parents and their "target children".

A second variable of incongruence in the transaction stage of the PREP Outreach Program is in variable 2.3 with respect to the maintenance of community involvement. In view of the discrepancy noted in the antecedent stage regarding the involvement pledged by the local Recreation Department, it is felt that the predetermined transaction standard of 80% program attendance was rather idealistic. Although a representative from the Department attended one training session and one program session, community involvement was maintained in other ways. During the program implementation period, frequent visitations were made to the centre by relatives and friends of the parent staff members and by other concerned parents and their children. The program was also visited by representatives of the Mason Group, the local P.S.S., a home-based intervention program, local kindergarten program and a resource development worker from Alberta Social Services and Community Health. The program was publicized by word-of-mouth and by an article printed in the local newspaper which appeared in mid-April.

A volunteer from an advocate association in the Town attended 32% of the total program sessions during which she assisted the parents. Although her attendance record was far less than the 80% predetermined standard, she maintained telephone contact with the parent staff members and was instrumental in gaining the support of the local Kinsmen and Kinnette Groups and the local newspaper.

3. Outcomes

A summary of the analyses of congruence between the various outcome variables is provided in Figure 30. It can be seen that for each observed outcome variable, congruence was achieved between both the predetermined standards and the statement of intents.

It was intended that each participant would demonstrate measurable progress on at least one prescribed skill during the 14 week period of program implementation. Although continuous performance information was not available for all the children, pre-assessment post-assessment comparisons showed that measurable progress had been demonstrated by each child.

The results obtained from questionaires and interview schedules indicated that the parents were satisfied that the training sessions had been helpful in both the home and centre environments. The parents were also pleased with the effects that the program had on: (a) the motor and social play skills of the target children, (b) their own instructional skills, and (c) on the level of community awareness with respect to their children's needs. When questioned about the overall program each parent responded in a very positive manner. Most helpful aspects of the program included the fact that the program was family-oriented and centre-based and that assistance was always available. Least helpful aspects of the program included the lack of

INTENT	CONGRUENCE	OBSERVATION	CONGRUENCE	STANDARD
3.1 Participants will progress on the prescribed skills	yes	measurable progress on at least one prescribed target skill for each child	yes	Measurable progress on at least one prescribed target skill for each child
3.2 Parents will find the training sessions to have been helpful in implementing the program	yes	86% satisfied	yes	80% parents judge the training sessions to have been helpful
3.3 Parents satisfied with general and specific effects of the program	yes	100% satisfied	yes	80% parents should judge positive program effects on: a. play skill progress b. instructional skill development c. level of community awareness, and d. in general
3.4 Parents committed to the continuation of the Program	yes	100% would like the program continued	yes	80% parents should want the program continued
3.5 Recreation department involved in the continuation of the Program	yes	Pledge to do utmost to ensure continuation of program	yes	Appropriate follow-up action

Figure 30. Outcomes: Analyses of Congruence

sophisticated play equipment, the lack of administrative structure in recording and the limited time that was available per week to implement the program. All of the parents expressed that they would like the program to be continued.

Upon receiving a letter from the parents as a group requesting that the program be continued, the Town Recreation Director expressed that the Department would do its utmost to ensure the continuation of the PREP Outreach Program.

Contingency Analysis

A contingency analysis was conducted by determining the degree and nature of the relationships among the program variables. At the level of intent this analysis involved identifying whether or not logical contingencies existed between the intended outcomes, and the intended antecedents and transactions. At the observational level, the analysis involved determining whether or not empirical contingencies could be demonstrated between the observed outcomes and the observed antecedents and transactions.

Five outcome variables were listed in the statement of intents presented in Chapter 4 of this study. The first outcome variable (3.1) suggested that each program participant would demonstrate measurable progress on at least one of the target skills prescribed for instruction. The next three variables (3.2, 3.3 and 3.4) suggested that

the parent staff members would be satisfied with regards to the helpfulness of the staff training sessions and the effectiveness of the program and that they would express a desire to continue the implementation of the PREP Outreach Program. The final outcome variable (3.5) suggested that the Town Recreation Department would be committed to the continuation of the PREP Outreach Program.

Intents: Logical Contingency Analysis

Participant Progress

Watkinson (1977) found that measurable performance improvements had been demonstrated by the preschool aged developmentally delayed children in her study during 3 weeks of implementing the PREP Program criterion-referenced curriculum. In Watkinson's study intense individualized instruction was provided a minimum of 5 minutes per session on each prescribed skill. A 3 week period would therefore represent 18 hours of program sessions totalling a minimum of 90 minutes of intensive individualized instruction. In the PREP Outreach Program it was intended that the program operate twice weekly for two hours per session for a period of 14 weeks. Excluding a 3 session period of assessment, this would have resulted in 25 program sessions (50 hours) totalling a minimum of 250 minutes of intensive individualized instruction. In view of Watkinson's (1977) results, it was logical to assume that given a 14 week period of PREP Program implementation involving a minimum of 10 minutes

of criterion-referenced individualized instruction, each program participant would demonstrate measurable improvement on at least one of the target skills prescribed for instruction.

The Parent Role

The literature reviewed on the implementation of instructional programs designed for high risk infants and developmentally delayed preschoolers indicates that if provided training and assistance, parents can teach their own handicapped children functional skills from a number of performance areas (e.g. Heifetz, 1977). It was therefore logical to assume that given appropriate training, understandable program materials and assistance during the program implementation period, the parents could effectively serve in the capacity of "teachers" in the PREP Outreach Program and would be satisfied with the effects of the program with respect to the gains achieved by the children and their own gains in instructional skills.

It was also anticipated that the parent staff members would desire that the program be continued. Shearer (1976) and Hayden (1976) consider dedication to program continuation to be a significant informal evaluation of a family-centred program for young handicapped children. Both these authors suggest that as a result of becoming directly involved in a program, parents can become strong advocates for the continuation of the program. It was therefore logical to

assume that given an effective training program, an opportunity for direct involvement and an effective program, the parent staff members would express a desire to continue the implementation of the PREP Outreach Program.

The Recreation Department

Arsenault (1978) stresses the importance of involving the local Recreation Department in all phases of program development. He suggests that this involvement is necessary in ensuring a departmental commitment to the provision of services to handicapped children and their families. It was therefore assumed that the Department's commitment to the continuation of the PREP Outreach Program would be contingent upon their involvement in the antecedent and transaction phases of program development.

Observations: Logical Contingency Analysis

Participant Progress

It was logical to assume that given the intended program schedule for a 14 week period, measurable gains would be achieved on the gross motor skills prescribed for instruction. However, for 57% of the program participants, the observed schedule of 11 hours of instructional program sessions did not meet with the predetermined standard of scheduling. The observed schedule represented a minimum of 110 minutes of intensive individualized instruction. The total amount of "instructional minutes" represented by

this schedule exceeds Watkinson's (1977) findings that measurable gains were achieved following a minimum of 90 minutes of individualized instruction. To ensure that the children were provided an extended amount of instruction and practice, the parent staff members were encouraged to prescribe at least one skill that could be easily applied to the home environment.

The Parent Role

It was logical to assume that if given an effective training program and direct individualized assistance, the parents would find the materials and instructional strategies advocated by the PREP Program to be helpful in both the centre and home environments. Training materials were developed and presented in a manner that would be appropriate for parents. Continuous feedback was obtained from the families with respect to the effectiveness of each training session. The results provided in Tables 4, 5 and 6 show that the parents who attended the sessions judged them favorably during the transaction phase of program development. Accordingly, the majority of the parents found the content of the training program to be helpful in both the centre (86%) and the home environments (86%).

It was also assumed that as a result of being directly involved in the program, the parents would become sensitive to the gains achieved by the children. All of the parent staff members judged the program to be effective

in improving the motor skills of their children.

A combination of effective training sessions and assistance in implementing the program was considered to be related to each parent's gains in instructional skills. The parents judged the training sessions to be effective and although insufficient response was obtained regarding the quality of assistance received, all of the parents indicated that as a result of participating in the program they had gained in instructional skills.

The satisfaction of the parents was reflected in the enthusiasm with which they attended both the training sessions and the program sessions. The overall commitment to the program was demonstrated when each parent expressed a desire to continue the PREP Outreach Program in the community. This commitment resulted in a letter that was sent to the local Recreation Department requesting support. The letter was signed by each of the parent staff members.

The Recreation Department

It was assumed that a commitment by the local Recreation Department to the continuation of the PREP Outreach Program would be logically contingent upon: (a) a pledge to become directly involved at both an administrative and participatory level and (b) active involvement in the implementation of the program. However, at the observational level this contingency was not demonstrated. During the antecedent phase of program implementation the local

Recreation Department pledged support of an administrative nature. Assistance was provided in the identification of a facility and advice was given in finding advocate agencies who would be potentially interested in supporting the program. Direct involvement was at no time pledged and subsequently could not be maintained. In light of the incongruence demonstrated between intents and observations during the antecedent and transaction phases, it was surprising to note that congruence had been achieved in the outcome phase of program development. The observations seem to suggest that the commitment of the Recreation Department is contingent upon the satisfaction of the parents. The role of the Department is to meet the requests and interests of their consumers. The satisfaction with the program and the subsequent commitment of the parent staff members to its continuation seemingly sparked the observed outcome pledge by the Department to do its utmost to ensure that the PREP Outreach Program be a continued service.

Observations: Empirical Contingency Analysis

Participant Progress

The pre-assessment post-assessment comparisons indicated that over the 14 week period of program implementation, each child achieved measurable progress on at least one of the target skills prescribed for instruction. However, in accordance with the Stake (1967) Countenance Model of Evaluation, empirical evidence is required to

demonstrate that the observed outcome is indeed a program effect. Provus (1972) suggests that empirical evidence be provided through the continuous measurements of transaction and outcome variables as a function of time. Continuous performance information was provided for Subject 1, 2, 3 and 4 as illustrated in Figures 8 through 18. No continuous information was available for S_5 and in this respect the improvement over time that was demonstrated can not be seen as an empirical program effect.

As mentioned earlier Provus (1972) recommends that the first stage in establishing an empirical contingency be an assessment of the initial program effects so that treatment adjustments may be made. He suggests that this stage continue until program effects have stabilized. Continuous performance information was maintained for S_6 and S_7 until it became apparent that program adjustments were necessary. Inasmuch that measurable progress was exhibited over the 14 week period of program implementation, an empirical contingency was demonstrated for these subjects. However, treatment adjustments were necessary throughout the duration of the implementation period; thus the evaluation of an empirical contingency could not be demonstrated beyond what Provus considers to be Stage I.

Provus suggests that Stage II in the establishment of an empirical contingency be the application of an experimental or quasi-experimental design to determine whether or not the program has met its objectives. The basic time-series

design was used to evaluate the program effects seen in each instance where measurable progress was demonstrated. This includes 3 target skills for S_1, 3 target skills for S_2, 1 target skill for S_3, and 2 target skills for S_4. The performance information for these target skills was graphically analyzed with respect to stability of baseline, changes in level between and within treatment phases and changes in trend between and within treatment phases.

Stability of Baseline

The baseline procedure used in the PREP Outreach Program involved the individual assessment of each participant on the PREP target skills. This procedure involved the use of the PREP Individual Student Profile for two program sessions (see Appendix A: Assessment). For each target skill that was prescribed performances during the assessment period were judged to be stable; that is prior to initiating instruction a consistent skill level was exhibited on two separate occasions at the centre. This information was coupled with information obtained from the parent regarding previous accomplishments in the given target skill.

Changes in Level

The pre-assessment post-assessment comparisons represented with asterisks (*) in Figures 8 through 27 show the overall changes in level that were demonstrated between baseline and treatment phases. It can be seen that 14 target skills were prescribed for subjects 1 through 5.

Measurable progress was demonstrated on 85% of these skills. This figure includes 6 target skills on which progress was achieved from one task level to another, 3 target skills for which gains were demonstrated from one level of prompting to another within a task, and 3 skills on which the target skill itself was achieved over the 14 week period.

It is interesting to note that the target skill to run was prescribed for three children and in each case measurable "between task" gains were achieved. Watkinson (1977) suggests that the nature of this skill may require that the child receive an extended amount of instructional and practice time before measurable progress can be achieved. The gains that were demonstrated in the Outreach Program on the target skill to run may reflect the ease with which this skill can be instructed in the home environment. Although no records were maintained, the direct parent involvement in the instruction of these skills may have ensured that the children were getting an extended amount of both instructional and practice time. The gains demonstrated by S_1 on the target skill to jump down (Figure 8) support this suggestion. A positive change in level was demonstrated immediately following a suggestion to alter the technique of instruction to a method that could be implemented with ease in the home environment.

Changes in Trend

Figures 8 and 11 represent the respective performance

information on S_1 on the target skill to jump down and for S_2 on the target skill to ascend stairs. In both figures a slight positive change in trend is demonstrated within the instruction phase of the program. This data pattern is similar to what Parsonson and Baer (1978) term a delayed change in which a number of program sessions were necessary before the appearance of an experimental effect. Parsonson and Baer (1978) suggest that this data pattern "may indicate that a revision of the programming is required if a more abrupt effect is sought" (p. 125). This suggestion is in agreement with the decision to re-evaluate after 5 instructional sessions during which no measurable performance was made. In Figure 8 the evaluation led to a modification in instructional technique to an approach which was condusive to performing in the home environment. The result was an immediate positive change in both level and trend.

Parsonson and Baer (1978) also suggest that the delayed data pattern "may simply indicate that a number of program sessions are required before the effects of a program are evident" (p. 125). In Figure 11 the program evaluation resulted in a decision to continue with the instructional treatment. Performance change was delayed, but it was also consistently positive.

On the target skills represented in Figures 9, 13 and 17, a positive change is demonstrated in trend. This change is considered to reflect what Parsonson and Baer (1978) term a temporary change in trend because "after a brief period of

rapid change a ceiling or plateau is reached" (p. 126). Parsonson and his colleague suggest that this type of data pattern might indicate that a behavior has reached its maximum level. This suggestion was also in agreement with the decision in Figure 9 to place the target skill to run on maintenance. In Figures 13 and 17 the plateau was reached during sessions which were very close to the end of the program implementation period. For this reason program revisions were not made.

Figures 10, 11, 15 and 18 indicate gradual positive changes in trend. Parsonson and Baer (1978) term this type of data pattern as abrupt but gradual and suggest that "such between-phase trend changes offer strong indications of treatment effects" (p. 124). It should be noted that these four figures represent one target skill for each of Subjects 1 through 4 on which measurable progress was made.

CHAPTER VII

MAKING JUDGEMENTS

Concluding Remarks

The purpose of this study was to investigate the effects of the PREP Program Model in a rural community with parents as instructors of their own preschool aged developmentally delayed children. An intended program design was developed on the basis of documented literature on the PREP Program and related research in the area of instructional programming for exceptional children and their families. The program design was implemented and three levels of program information were collected: antecedent, transaction and outcome.

The major program variables associated with the antecedent level of program development included:

(a) factors related to the setting (i.e. the identification of a location and a facility, obtaining play equipment and arranging for a program schedule),

(b) factors related to the subjects (i.e. identification of program participants and preparation of training materials for the potential staff members), and

(c) factors related to obtaining community support (i.e. the support of the local

Recreation Department and other advocate agencies).

The specific parameters associated with the transaction level included implementation of the staff training program and the PREP Program Model and the maintenance of community involvement and support. Program variables associated with the outcome level included assessments of individual skill progress over a 14 week period of program implementation, feedback from the parent staff members with respect to specific and general program effects and feedback from the local Recreation Department with respect to the continuation of the PREP Outreach Program.

An analysis of the results revealed that the PREP Program Model and curriculum could effectively be applied in a rural community as a skill-upgrading play program for developmentally delayed children between the ages of 2.5 to 6 years. The results further suggest that with training and assistance, parents can serve as the principle teachers in the implementation of the PREP Program. Finally, the results indicate that the support and involvement of the local Recreation Department may be strongly related to parental satisfaction and commitment to program continuation.

It was demonstrated that the PREP Program could be effectively implemented as a family-oriented, centre based community play program. The parents who participated in the study indicated that they particularly enjoyed their direct role in the implementation of the program and the

role that their other children played. They further stressed their satisfaction with respect to the provision of special services within their own community.

One problem associated with implementing the PREP Program in a rural community was related to the identification of an appropriate setting with respect to the characteristics of the program participants. The PREP Program was designed for children who are between the ages of 3 to 7 years and are classified as trainable mentally retarded. Much difficulty was encountered in the isolation of a rural community in which 5 to 10 children with these characteristics were living.

In the present study this barrier was lifted by including 3 children who did not meet the 3 year age specification. Although the assessment tool and the PREP curriculum were inappropriate in terms of content for two of these children, it was demonstrated that the PREP Model and techniques of individualized instruction could be applied to effectively upgrade their motor skills. A number of target skills were identified as being appropriate for children between the ages of 1 and 3 years. Some instructional sequences were developed using the PREP Program format, based on the instructional experiences with these children. Further program research is necessary in determining the effectiveness of the PREP Program format with developmentally delayed children between the ages of 1 and 3 years.

An alternate approach to increasing the applicability

of the PREP Program in a rural community may lie in expanding the functional level specification of trainable mentally retarded. Wall and his colleagues (1978) indicate that the PREP Program format can be applied to severely mentally retarded children. Because the nature of the Outreach Program is individualized with parents serving in the role of instructors, it may be beneficial to include severely impaired children and their families in a community oriented play program. It is felt that the PREP Outreach Program should strive to meet the physical recreational needs of as many community members as possible. The parent training materials should, therefore, be generic so that they can be applied to upgrading the motor skills of those children and their families who are in need of specialized service.

Recommendations for Program Revision

The following recommendations for the implementation of the PREP Outreach Program are supported by the analysis of the results obtained in the present study.

1. At the antecedent level the predetermined standard regarding participant characteristics should be modified to include preschool age children between the ages of 1 and 3 years.
2. At the antecedent level the predetermined standard regarding a schedule for program implementation should be modified to one program session per week for children who

are currently involved in a weekday program and two program sessions per week for children who are not. Each program session should be 1.5 to 2 hours in duration including time to set up and dismantle the play equipment.

3. At the transaction level the Free Play Inventory should be used to identify the skills that each child chooses to participate in, both at a skilled and unskilled level. Assessments using the Free Play Inventory could be completed after each set of ten instructional program sessions. In this manner data will be available on the performance changes of the children in free play.
4. At the transaction level parents should receive instruction, at a training session, on the PREP Program procedures for prescribing target skills. Parents should be encouraged to prescribe skills that:
   (a) the children choose to participate in at an unskilled level,
   (b) that are considered by the PREP staff to be high priority, and
   (c) that can be practiced in the home environment.

5. At the transaction level recording procedures should be maintained by the parents, but should be administered by the program coordinator at the centre. It may be helpful to post the record forms at the centre to prompt the parents to maintain continuous performance records. The program coordinator should reinforce the parents on an intermittent schedule for maintaining accurate records. Additional record forms should be distributed to the parents for the purpose of recording instructional sessions in the home environment.

Recommendations for Program Continuation

The following recommendations for the continuation of the PREP Outreach Program are supported by the analysis of the results obtained in the present study:

1. The PREP Outreach Program should be continued until the end of June, 1979. The program should be terminated for the summer months and then started up again in the fall.
2. The program should be advertised in the local newspaper and recreation bulletin so that members of the community will be aware of its existence.
3. The role of the program coordinator should

gradually be shifted from an individual associated primarily with the University PREP Program to an individual associated with recreation programming in the community. This will involve the provision of specialized training to community recreation personnel. Eventually the program should be implemented under the auspices of the local Recreation Department with a representative liason from the PREP Program for consulting purposes. Three phases are suggested as a means of achieving this goal:

Phase 1: A representative of the University PREP Program is directly involved as program coordinator in the implementation of the Outreach Program. Parents serve in the role of instructors and the Recreation Department is involved in an administrative capacity (i.e. identification of a facility).

Phase 2: A representative of the University PREP Program and a representative of the local Recreation Department jointly serve in the role of program coordinator. Parents serve in the role of instructors and the Recreation

Department is involved in an increased administrative capacity (i.e. budgetting, advertising). A government grant should be obtained to cover the costs associated with the University representative (i.e. travel, salary, etc.).

Phase 3: A representative of the local Recreation Department is directly involved as program coordinator of the Outreach Program. Parents serve in the role of instructors and the Recreation Department is responsible for the administration of the program. A University consultant will be available by telephone contact for the provision of curricular and training materials and suggestions.

4. The PREP Outreach Program should continue to be family-oriented and centre-based. It may be necessary to identify a larger facility to accomodate the number of people involved. If possible the facility should be a public centre in which recreation programs are commonly held for the community-at-large.

5. The parent group should be responsible for obtaining further play equipment if desired.
6. Audio-visual materials on the instruction of specific target skills should be placed in the Town Library so that they are accessable to the parent staff members.
7. The program coordinator should continue to receive continuous feedback from the parent staff members to ensure a sensitivity to their individual and group needs.

Recommendations for Program Expansion

The results of the present study demonstrated that the PREP Program could be effectively implemented in a rural community with parents as instructors of their own children. However, the approach used in this study may not be the most economically efficient method for expanding the PREP Program to rural communities en masse. The following recommendations are suggested for the expansion of the PREP Outreach Program:

1. Further program research should be conducted to identify methods of implementing the PREP Outreach Program in a number of communities at one time.
2. Further research should be conducted to identify communities where there is a need for the implementation of the PREP

Program with respect to the characteristics identified for program participants.

3. Further research should be conducted with respect to the applicability of the PREP Program model for preschool aged children who do not meet the characteristics defined by the PREP Program (i.e. children between the ages of 1 and 3 years and children who are multiple or severely/profoundly handicapped).

4. Further research should be conducted to determine whether the staff training sessions are effective in improving the instructional skills of the parent staff members. This could involve continuous assessments of the parents' acquisition and delivery of the instructional procedures suggested for use in the PREP Program.

CHAPTER VIII

FOLLOW-UP

The formal 14 week period of program implementation ended in April 1979. However, in response to the enthusiasm of the parents' the PREP Outreach Program was continued until the end of June. Throughout May and June, attendance on the Monday morning session tapered off, but the Saturday session remained well attended ($\bar{x}$ = 80%). During the month of June the program was held at a nearby park where the children had the opportunity to practice their skills on outdoor playground equipment.

In June, an intensive 4-day workshop was held at the University of Alberta. The purpose of the workshop was to provide some individuals in rural communities and local institutions with the skills necessary to implement the PREP Program. The workshop was sponsored by Services to Special Groups Section of Alberta Recreation and Parks. The workshop was attended by three individuals from Town X: (1) a representative from the Town Recreation Department, (2) a representative from the Kinnette Group and (3) a representative from the local Preventative Social Services (P.S.S.).

An integrated summer day camp was held in the community sponsored by the local P.S.S., and many of the PREP Program participants attended the camp on a drop-in basis.

In August, an interview was conducted with a representative from the local Recreation Department at which

Instrument 8 was discussed. At the interview it was indicated that the Recreation Director had felt positive with the manner in which the Department was initially approached regarding the PREP Program. Although he felt that an unrealistic time committment had been requested, he definitely thought that there was a need in the community for the continuation of the PREP Outreach Program. He perceived the role of the Recreation Department to be administrative in nature.

At the interview, it was further expressed that the Recreation Department was in the process of ensuring the continuation of the PREP Outreach Program. The Board of Directors had accepted the inclusion of the Program into their 1979 winter budget, an administrative supervisor for the Program had been appointed, and some contact had been initiated with the parent group.

In early September of 1979 a meeting was held between the administrative supervisor and the PREP Program Staff to discuss the planning stages of program continuation. The PREP Outreach Program is scheduled for implementation in late fall of 1979.

REFERENCES

Alberta Association for the Mentally Retarded. AAMR Policy Statement Relevent to Recreation and Culture. Alberta: 1978.

Alkin, M. C. Evaluation theory development. Evaluation Comment, 1969, 2(1), 2-7.

Annett, J. Feedback and human behavior. Penguin Books, 1969.

Arsenault, D. Yes - you should be involved in master planning. Alberta: Recreation Services to Special Groups, Alberta Recreation and Parks, 1978.

Baine, D. Criterion referenced testing and instruction. In J. P. Das and D. Baine (Eds.), Mental retardation for special educators. Illinois: C.C. Thomas Publisher, 1978.

Baldwin, V. L., Fredericks, H. D., and Brodsky, G. Isn't it time he outgrew this? or A training program for parents of retarded children. Springfield, Illinois: C. C. Thomas Publisher, 1973.

Bayley, N. A. The development of motor abilities during the first three years. Monograph of the Society for Social Research in Child Development, 1935, 1, 1-26.

Bijou, S. W., Peterson, R. F., Harris, F. R., Allen, K. E., and Johnston, M. S. Methodology for experimental studies of young children in natural settings. The Psychological Record, 1969, 19, 177-210

Birnbrauer, J. S., Peterson, C. R., and Solsnick, J. V. Design and interpretation of studies of single subjects. American Journal of Mental Deficiency, 1974, 79(2), 191-203.

Brofenbrenner, V. A report on longitudinal evaluations of preschool programs (Vol. 2) Is early intervention effective? Washington, D. C.: Department of Health, Education and Welfare, 1974.

Brown, A. L. The role of strategic behavior in retardate memory. In N. R. Ellis (Ed.), International Review of Research in Mental Retardation (Vol. 7). New York: Academic Press, 1974.

Bruininks, R. H. Physical and motor development of retarded persons. In N. R. Ellis (Ed.), International Review of Research in Mental Retardation, New York: Academic Press, 1975, 7, 209-261.

Bruner, J. S. Organization of early skilled action. Child Development, 1973, 44, 1-11.

Campbell, D. T. and Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally College Publishing Company, 1963.

Canadian Institute for Research. An evaluation of the early childhood services program in Alberta (A study conducted under contract to Alberta Education). Calgary: 1978.

Carr, J. Mental and motor development in young mongol children. Journal of Mental Deficiency Research, 1970, 14, 205-220.

Cronbach, L. J. Course improvement through evaluation. Teachers College Record, 1963, 64, 672-683.

Das, J. P. Attention. In J. P. Das and D. Baine (Eds.), Mental retardation for special educators. Illinois: C. C. Thomas Publisher, 1978.

Ellis, M. J. and Scholtz, G. J. L. Activity and play of children. New Jersey: Prentice-Hall, Inc., 1978.

Francis, R. and Rarick, C. L. Motor characteristics of the mentally retarded Cooperative Research Monograph No. 1. Washington, D. C.: U.S. Department of Health, Education and Welfare, 1960.

Fredericks, H. D., Baldwin, V. L., Grove, D., Riggs, C., Furey, V., Moore, W., Jordan, E., Gage, M., Levak, L., Alrith, J., and Wadlow, M. A data-based classroom for the moderately and severely handicapped. Monmouth, Oregon: Instructional Development Corporation, 1975.

Fredericks, H. D., Baldwin, V. L., and Grove, D. A home-centre-based parent training model. In D. L. Lillie and P. L. Trohanis (Eds.), Teaching parents to teach: A guide for working with the special child. New York: Walker and Company, 1976.

Friesen, F. Individualized instruction in gross motor skills with severely mentally retarded children. Unpublished M. A. Thesis, Physical Education Department, University of Alberta, In press.

Gelfand, D. M. and Hartmann, D. P. Child behavior: Analysis and therapy. New York: Pergamon Press, 1975.

Gentile, A. M. A working model of skill acquisition with application to teaching. Quest, 1972, 17, 3-23.

Gesell, A. L. The first five years of life: A guide to the study of the preschool child. New York: Harper and Brothers, 1940.

Hallihan, D. P. and Kaufman, J. M. Exceptional children: Introduction to special education. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1978.

Hanson, M. J. Teaching your Down's Syndrome infant: A guide for parents. Baltimore: University Park Press, 1977.

Hardiman, S. A., Goetz, E. M., Reuter, K. G., LeBlanc, J., and Primes, M. Contingent attention and training: Effects on a child's motor behavior. Journal of Applied Behavior Analysis, 1975, 8(4), 399-409.

Hayden, A. H. A center-based parent-training model. In D. L. Lillie and P. L. Trohanis (Eds.), Teaching parents to teach: A guide for working with the special child. New York: Walker and Company, 1976.

Hayden, A. H. and Dmitriev, V. Multidisciplinary preschool program for Down's Syndrome children at the University of Washington Model Preschool Center. In B. Z. Friedlander, G. Kirk and G. Sterritt (Eds.), The exceptional infant (Vol. 3). New York: Brunner-Mazel, 1975.

Hayden, A. H. and Haring, N. G. Early intervention for high risk infants and young children: Programs for Down's Syndrome children. In T. D. Tjossem (Ed.), Intervention strategies for high risk infants and young children. Baltimore: University Park Press, 1976.

Heifetz, L. J. Behavior training for parents of retarded children: Alternative formats based on instructional manuals. American Journal of Mental Deficiency, 1977, 82, 194-203.

Huberty, C. J. and Swan, W. W. Evaluation of programs. In J. B. Jordan, A. H. Hayden, M. B. Karnes, and M. M. Wood (Eds.), Early childhood education for exceptional children: A handbook of ideas and exemplary practices. Virginia: The Council for Exceptional Children, 1977.

Hutchison, M. and Lord, J. C. Recreation integration: Disabled in community programmes. Recreation Canada, 1975, 33(3), 60-64.

Jeffree, D. M., McKonkey, R., and Hewson, S. A parental project. In P. Mittler (Ed.), Research to practice in mental retardation: Care and intervention (Vol. 1). Baltimore: University Park Press, 1977.

Jones, R. R., Vaught, R. S. and Weinrott, M. Time-series analysis in operant research. Journal of Applied Behavior Analysis, 1977, 10, 151-166.

Karnes, M. B. and Zehrbach, R. R. Alternative models for delivering services to young handicapped children. In Jordan, et al. (Eds.), Early childhood education for exceptional children: A handbook of ideas and exemplary practices. Virginia: The Council for Exceptional Children, 1977.

Kazdin, A. E. Artifact, bias and complexity of assessment: The ABC'S of reliability. Journal of Applied Behavior Analysis, 1977, 10, 141-150.

Keele, S. W. Attention and human performance. California: Goodyear, 1963.

Kerlinger, F. N. Foundations of behavioral research (2nd ed.). New York: Holt, Rinehart and Winston, Inc., 1973.

Kratochwill, T. R. Foundations of time-series research. In T. R. Kratochwill (Ed.), Single subject research: Strategies for evaluating change, New York: Academic Press, 1978.

Kraus, R. G. Recreation today. Santa Monica: Goodyear Publishing Company, 1977.

Kysela, G. M. The Early Education Project: A home and school approach for infants and pre-school children exhibiting developmental handicaps (A study conducted under contract to Alberta Education). Edmonton: 1978.

Kysela, G. M., Daly, K., Hillyard, A., and McDonald, L. The Early Education Project: A home and school approach to the early education of handicapped children. Mental Retardation Bulletin, 1976, 4(1), 29-35.

Lawson, M. Memory and rehearsal. In J. P. Das and D. Baine (Eds.), Mental retardation for special educators. Illinois: C. C. Thomas Publisher, 1978.

Levitt, E. and Cohen, S. Educating parents of children with special needs - Approaches and issues. Young Children, 1976, 31(4), 263-272.

Levy, J. Social reinforcement and knowledge of results as determinants of motor performance among E.M.R. children. American Journal of Mental Deficiency, 1974, 78(6), 752-758.

Lillie, D. L. An overview to parent programs. In D. L.

Lillie and P. L. Trohanis (Eds.), Teaching parents to teach: A guide for working with special children. New York: Walker and Company, 1976.

Lillie, D. L. and Trohanis, P. L. (Eds.) Teaching parents to teach: A guide for working with special children. New York: Walker and Company, 1976.

Linford, A. G., Jeanrenaud, C. Y., Karlsson, K., Wih, P., and Linford, M. D. A computerized analysis of characteristics of Down's Syndrome and normal children's free play patterns. Journal of Leisure Research, 1971, 3, 44-52.

MacKay, D. A. and Maguire, T. O. Evaluation of instructional programs (A study prepared for the Educational Planning Mission). Alberta: Human Resources Research Council, 1971.

McNamara, J. R., and MacDonough, T. S. Some methological considerations in the design and implementation of behavior therapy research. Behavior Therapy, 1972, 3, 361-378.

National Institute on Mental Retardation. Growing by participating in community recreation experiences: A guide for parents. Toronto: Canadian Association for the Mentally Retarded, 1978.

Noble, A. An instrument to assess sensori-motor play of preschool trainable mentally retarded children. Unpublished Master's Thesis, Department of Physical Education, University of Alberta, 1975.

Parsonson, B. S. and Baer, D. M. The analysis and presentation of graphic data. In T. R. Kratochwill (Ed.), Single subject research: Strategies for evaluating change. New York: Academic Press, Inc., 1978.

Piaget, J. Play, dreams and imitation in childhood. London: Routledge and Kegan Paul Ltd., 1951.

PREP Program implementation project Report. PREP Program, Department of Physical Education, University of Alberta, 1979.

Provus, M. M. The discrepancy evaluation model. In P.A. Taylor and D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque, Iowa: Wm. C. Brown Company Publishers, 1972.

Rarick, G. L., Widdop, J. H., and Broadhead, G. The physical fitness and motor performance of educable mentally retarded children. Exceptional Children, 1970, 36, 509-519.

Schortinghuis, N.E. and Frohman, A. A comparison of para-professional and professional success with preschool children. Journal of Learning Disabilities, 1974, 17, 245-247.

Scriven, M. The methodology of evaluation. In P. A. Taylor and D. M. Cowley (Eds.), Readings in curriculum evaluation. Dubuque, Iowa: Wm. C. Brown Company Publishers, 1972.

Shatz, D. M. Some suggested program materials for infants involved in the PREP Program. Unpublished paper PREP Program, Department of Physical Education, University of Alberta, 1979.

Shearer, M. S. A home-based parent-teaching model. In D. L. Lillie and P. L. Trohanis (Eds.), Teaching parents to teach: A guide for working with the special child. New York: Walker and Company, 1976.

Shearer, M. S. and Shearer, D. E. The Portage Project:a model for early childhood education. Exceptional Children, 1972, 36, 210-217.

Shearer, M. S. and Shearer, D. E. The Portage Project: a model for early childhood intervention. In T. D. Tjossem (Ed.), Intervention Strategies for high risk infants and young children. Baltimore: University Park Press, 1976.

Shearer, M. S. and Shearer, D. E. Parent involvement. In J. B. Jordan, A. H. Hayden, M. B. Karnes and M. M. Wood (Eds.), Early childhood education for exceptional children: A handbook of ideas and exemplary practices. Virginia: The Council for Exceptional Children, 1977.

Shirley, M. M. The first two years: A study of twenty-five babies, Vol. 1 Postural and locomotor development. Minneapolis: University of Minnesota Press, 1931.

Simard, E. P. C. and Wall, A. E. A prospective view of university preparation in adapted physical education for the 90's. Paper presented at the Second National Conference of the Canadian Council of University Physical Education Administrators, 1979.

Spinak, J. Normalization and recreation for the disabled. Leisurability, 1975, 2(2), 31-35.

Stake, R. E. The countenance of educational evaluation. Teachers College Record, 1967, 68, 523-540.

Stein, J. U. Physical fitness of mentally retarded boys relative to national age norms. Rehabilitation Literature, 1965, 26(7), 205-208.

Sugiyama, K. Integration: The recreation director and the parents. Leisurability, 1978, 5(3), 16-18.

Tjossem, T. D. Early intervention: Issues and approaches. In T. D. Tjossem (Ed.), Intervention strategies for high risk infants and young children. Baltimore: University Park Press, 1976.

Tuckman. B. W. Conducting educational research (2nd ed.). New York: Harcourt, Brace Jovanovich Inc., 1978.

Wall, A. E. Equipment preference and free play practice patterns of preschool moderately mentally retarded children. Unpublished paper PREP Program, Department of Physical Education, University of Alberta, 1974.

Wall, A. E. The motor performance of the mentally retarded. McGill Journal of Education, 1976, 11(1), 74-82.

Wall, A. E. The PREP Program: The preschool play program at the University of Alberta. Rec-Vision, 1978, 3, 40.

Wall, A. E. and Watkinson, E. J. The PREP Program: Curriculum materials and instructional strategies. Paper presented at A.A.H.P.E.R. National Convention, Kansas City: 1978.

Wall, A. E., Watkinson, E. J., Friesen, F., Shatz, D., Hoy, D., and Hunt, V. The PREP Primer Program: A gross-motor instruction program for severely mentally retarded children. Department of Physical Education, University of Alberta, 1978.

Wall, A. E., Watkinson, E. J., and Shatz, D. M. Analysis of individualized instruction in motor skills with young mentally retarded children. Paper presented at the International Symposium on "Motor skills: Major instrument for the total education of the mentally retarded", Quebec: 1979.

Watkinson, E. J. Annual report of the Physical Research and Demonstration Project (PREP). Department of physical Education, University of Alberta, 1975.

Watkinson, E. J. PREP: A preschool play program for retarded children. Department of Physical Education, University of Alberta, 1976.

Watkinson, E. J. The effect of the PREP Preschool Play Program on the play skills and free play patterns of moderately (trainable) mentally retarded children. Unpublished doctoral dissertation, Michigan State University, 1977.

Watkinson, E. J. PREP: A program for teaching play skills to retarded children. C.A.P.H.E.R. 22 Journal, 1979, 45(4), 15-17.

Watkinson, E. J. and Wall, A. E. The PREP Program: A preschool play program for moderately mentally retarded children. Proceedings of the First International Symposium on Adapted Physical Activity. Quebec: 1977.

Wehman, P. Establishing play behaviors in mentally retarded youth. Rehabilitation Literature, 1975, 36(8), 238-246.

Wehman, P. Helping the mentally retarded acquire play skills: A behavioral approach. Illinois: C. C. Thomas Publisher, 1977.

Weininger, O. Unstructured play as a vehicle for learning. International Journal of Early Childhood, 1973, 4, 63-69.

Wessel, J. A. I CAN. Northbrook, Illinois: Hubbard, 1976.

Wolfensberger, W. Normalization: The principle of normalization in human services. Toronto: National Institution on Mental Retardation, 1972.

APPENDIX A

HAND-OUTS AND MATERIALS FOR THE PARENT TRAINING PROGRAM

PREP: A PRESCHOOL PLAY PROGRAM

The Physical Activity Research and Demonstration Centre at the University of Alberta is concerned with physical activity research and program development for young children who are developmentally handicapped or mentally retarded. The Preschool Play Program - PREP - is one of the projects associated with the centre. The goal of the PREP Program is to learn to play. The basis of PREP is that with careful teaching, all children can learn basic motor skills so that they will want to use them in a variety of play environments such as the home, the backyard, the playground, or the kindergarten program.

The word PREP can be used to illustrate the basic features of the Preschool Play Program which are:

Progressive
Regular
Enjoyable
Practice of gross motor play skills.

Progressive

The PREP Program is designed to teach a number of motor skills ranging from simple to complex. The children progress from learning basic motor skills such as walking, running and jumping to play skills such as climbing, sliding, tricycling, swinging on a rope and trampolining. Each target skill consists of small sequential steps which facilitate the progressive learning of the skill. These steps are behaviorally-defined specifically so that the

child can have as many successful experiences as possible. The instructor uses the steps to determine the level each child can attain on each skill. The sequential arrangement of the steps also serve as a guide for the teaching of the skill so that an accurate record of the child's progress can be kept.

Another progressive feature in the PREP Program concerns the amount of help that is provided by the instructor during the teaching of a given skill or step. As a child learns a step in a skill sequence, the amount of help provided by the instructor is progressively decreased. In this manner the child performs more and more of the skill independently until the child is able to use the skill in a free play setting.

Regular

The PREP Program is most effective when it is provided on a regular basis. The children in the PREP Program at the University of Alberta participate for approximately 1 1/2 hours, 3 days each week. The instructors have set up a playroom that helps to stimulate the children to play purposefully on their own. By playing independently the children are able to practice using the PREP skills. When a child is not using the PREP skills during free play time, the instructor will choose that time to intervene with instruction on a one to one basis.

In this manner, each child is provided with regular

free play time and with individual instruction at well chosen moments. By combining instruction with freedom of choice in a play setting, the PREP Program encourages the children to use the play skills they have learned within a culturally - normative play environment.

Enjoyable

The enjoyment of the children gives us a ready assessment tool for whether or not the children are progressing. The fun element must be present within any program; if there is too much structured instruction or not enough, too little stimulating play equipment or too much, then often it is reflected first by the expressions on the children's faces. The program should have high expectations, plenty of learning opportunities, and a stimulating environment if it is to meet the criteria of enjoyment.

Pratice

The basic feature of the PREP Program is practice; as mentioned earlier, the children often do not exhibit basic play skills. If they are to learn these skills they must be taught directly, at appropriate times, how to perform these basic skills. The key to learning these skills is the use of progressive tasks which are practiced time and time again. Practice is important during instruction; however, it is even more important to provide stimulating play environments that motivate the children to perform the new skills that they have learned.

As the children in our pgoram have learned the basic play skills their purposeful free play time has significantly increased. Therefore, good play equipment and facilities should be available for children to practice and thereby improve their play skill repertoire.

The PREP Program has compiled written and audio-visual materials that provide details on the basic features that aim to foster the gross-motor development of young children. The materials are available from the Physical Education Department at the University of Alberta. If we follow the principles underlying progressive, regular enjoyable practice then we can certainly help young children develop play skills that can contribute to active and happy lives. For further information please contact:

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ASSESSMENT

The goal of the PREP Play Program is to assist young children in achieving developmental play skills that have wide applicability in a number of play environments; the school playroom, the home, the backyard, the playground. It is hoped that; by learning the play skills that make up the repertoire of other young children, the retarded child can learn to play in any of these situations.

The play skills that appear to contribute to the leisure time of normal young children have been identified as TARGET SKILLS for instruction in the PREP Program. Acquisition of all of these skills during the preschool and middle childhood years may not be feasible. However, the purpose of the PREP Program is to help children achieve some of these skills so that the quality and quantity of their recreational play will be enhanced.

Each Target Skill is one of a group of skills that makes up one aspect of a child's play. Six groups or categories of skills have been identified as having major importance in a child's play repertoire. LOCOMOTOR SKILLS are those that he uses to get somewhere, PLAYROOM SKILLS are those that he might apply most often with indoor equipment, PLAYGROUND SKILLS are used frequently with outdoor play equipment, BODY CONTROL SKILLS are skills that usually require some specific control of body parts in an unusual position or place and OBJECT CONTROL SKILLS are those skills

LOCOMOTOR SKILLS	PLAYROOM SKILLS	PLAYGROUND SKILLS	BODY CONTROL SKILLS	OBJECT CONTROL SKILLS
Running	Pulling a wagon	Sliding down a slide	Walking up an inclined bench	Throwing
Ascending stairs	Riding a tricycle	Swinging on a bar	Climbing on a box	Kicking
Descending stairs	Sitting on a scooter	Swinging on a swing	Ascending ladder	Striking with a stick
Jumping down	Jumping on a trampoline	Inverted hang	Descending ladder	Catching
Jumping over	Riding scooter down incline sitting	Somersault around bar	Forward roll	Bouncing
Hopping on one foot	Swinging on a rope		Backward roll	Hitting with a bat
	Tummy riding on a scooter			
	Tummy riding down incline on scooter			
	Seat drop on trampoline			
	Riding a wagon			

FIGURE 1: PREP PLAY SKILLS

that are needed to manipulate balls, with or without an implement.

The complete list of Target Skills for each category can be found in Figure 1. The skills are listed according to their priority in the skill repertoire of an average child. Within the Locomotor Skills for example running is seen to be the most important skill, while hopping is seen to be less important for play because there are fewer situations in which it can be, or should be, used. The priorizing of these skills is based on the frequency of their possible use, as well as the ease with which they are normally acquired. The ones at the top of the list are applied more frequently by normal youngsters, are learned at an earlier age on the average, and are acquired with a good deal less instruction or assistance.

Each TARGET SKILL has been broken down into a number of LEARNING TASKS arranged in a logical sequence to facilitate assessment and instruction. This TASK SEQUENCE begins at a low level of difficulty so that the child's performance at a very elementary level can be sensitively assessed. The last step in the task sequence is the target skill. These steps have been tested with groups of young retarded children and they seem to be appropriate for most of them. There may be occasions when they are not exactly right for a particular child, but teachers should remember that developmental and learning sequences are not absolutely rigid--there may be variations within a group.

The Target Skills and their Task Sequences are the basic elements of the assessment. They are written in a shortened form on the INDIVIDUAL STUDENT PROFILE. For example, for the Target Skill of running the sequence is as follows:

1. Fast walk.
2. Fast walks with bent arms moving in opposition to legs.
3. Runs with instances of non-support.
4. Runs quickly, dodging obstacles.

The last step in the sequence is the target skill. Children who attain this step will have the skill necessary to play well in most activity settings.

Each of these steps is defined more specifically in the Appendix where the complete instructional materials for each Target Skill are found. A description of the behavior required, the conditions under which the performance should occur and the standards that should be reached is included in the left-hand column for each skill so that teachers can be assured that they know when their children have met the criteria.

Assessment is one of the most important parts of an instructional program since it is through assessment that a teacher determines which Target Skills each child has and where he is performing in the Task Sequence. Knowing what a child can do will tell the teacher what the child needs to learn to do so that the teacher can concentrate on teaching those skills the child is lacking. For this

reason the PREP Program suggests that a comprehensive assessment be done on each child. The teacher can then look at the child's complete skill repertoire before making a decision on what to spend precious instructional time on.

In assessing a child's Play Skills it is important to know both what the child can do and what he actually chooses to do with some frequency. Presumably the skills he chooses to do when he is alone and playing freely are well-learned and require no instruction. Those that he can do, but only when asked or shown, may need practice and reinforcement so that the child will eventually choose to do them on his own. Those skills that the child cannot do, even when asked, need instruction before they can be used when they are needed in play activity. In order that the teacher get this information, the PREP Program suggests that the teacher first spend some time watching the children in free play to see which specific target skills are INITIATED comfortably and frequently. After this she can find out what the child can do when he is given a VERBAL CUE, when he is given a DEMONSTRATION or when he is given PHYSICAL ASSISTANCE. The teacher would be wise to set aside three or four sessions at the beginning of her program to complete comprehensive assessments on a group of six to eight children. The time will not be wasted because during assessments children are free to play with and practice the skills they already have. Many of the Target Skills

(for example running, jumping, throwing, climbing) can be assessed in a group session with the teacher giving verbal cues and demonstrations to all the children at once.

HOW TO BEGIN

The best way to begin the task of assessment is to watch the children during free time when a number of pieces of equipment are set up and available for play. Tricycles, balls of different sizes, sticks and bats can all be in the playroom at once, or the children may be restricted to the use of the equipment needed for Locomotor and Body Control Skills (see Appendix for list of equipment for each skill category). Target Skills that require specialized equipment that is not available to the teacher can simply be ignored. With forty skills listed there are bound to be a large number that can be accomodated even in an ill-equipped playroom!

The teacher should use a FREE PLAY INVENTORY during the first session of the program. It contains a list of the Target Skills in each category. After recording the children's names in the spaces provided she can spend frequent one-minute observations of each child and record under his name the skills that he seems to use competently. Even without a complete knowledge of the learning tasks in each sequence the teacher will be able to identify some of the target skills that are well learned. Before the next session she can transfer the checks to INDIVIDUAL STUDENT PROFILES on

each child, marking the last step in the sequence with a check under the column "Initiates in free play" for any Target Skill she feels has been previously achieved. Two checks should be obtained for each skill if possible.

The Free Play Inventory will give the teacher some idea of the appropriateness of the PREP Program for her children. If there are no checks she will know that she will probably be starting at the beginning with all of her children. If there is a wide range of skills in her class she may decide to limit group instruction to very brief and infrequent periods during her program. Watching the children in free play and noting carefully what they do makes most people very sensitive to the need for individualized instruction.

After several months the teacher may want to repeat this informal check on free play to see if her children are initiating more skills, particularly those skills that have received intensive instruction during the play program. This will give her a realistic, if limited, view of the effectiveness of her program.

DAYS TWO AND THREE

On the second day of the program the teacher should be ready to assess each child more comprehensively. She should begin with the first two skills in each category:

running
ascending stairs
pulling a wagon
riding a tricycle

sliding down a slide
swinging on a bar
walking up an inclined bench
climbing onto a box
throwing
kicking

Of these ten high priority skills there are two or three that can be assessed in a group - running, walking up an inclined bench, climbing onto a box. The teacher may want to call her children together and assess these skills all at once. If she does she can still use the guidelines that are presented for individual assessment.

To assess a specific Target Skill with one child the teacher should begin with a Verbal Cue, either as a direct command ('Jump down, Joey') or as an indirect command ('Can you jump down, Joey?'). Wherever possible the teacher should make use of the child's proximity to a particular piece of equipment when she assesses a skill. If the child is near the horizontal bar she might try to assess bar swinging, and if other children approach her at the bar she should complete the assessment on them also. The time may come however, when she must entice, or physically steer a child to a piece of apparatus so that she can assess another skill.

If the child responds with the right target skill after the verbal cue on two trials the teacher should put a check mark in the verbal cue column of the last step in the sequence and move on to another Target Skill.

If after a repetition of the verbal cue the child does not respond, or gives an incomplete or incorrect

response, the teacher should demonstrate the Target Skill while she repeats the verbal cue. Failure to obtain a correct response here should result in the teacher giving demonstrations paired with verbal cues at progressively lower tasks in the sequence until she gets a response or until she has had to give some physical assistance to get a response. The teacher should remember that she wants an accurate picture of the child's competencies - giving physical assistance too early can mask the child's real skills. It is important to give him time to respond after a verbal cue and after a demonstration. Physical assistance should be given only when it is apparent that the child will not respond to a demonstration even at the first task step.

The Individual Student Profile should reflect what a child can do and what he can't do. The teacher, therefore, must record (with an x) those skills that were demonstrated or 'cued' and received no response or an incorrect response. At least two trials are necessary to demonstrate competence or lack of it.

After assessing on running the child's profile may look like this:

Running

	Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates on Free Play
1. Fast Walk		✓ ✓	x x		
2. Fast walks with bent arms moving in opposition to legs.			x x		
3. Run with instances of non-support.			x x		
4. Runs quickly, dodging obstacles.			x x	x x	

In this case physical assistance was necessary to get a correct response at task one after demonstration failed to elicit a response that was more sophisticated. If physical assistance was resisted the check marks would be x's and there would be two checks in the first column "resists performing".

If physical assistance is needed at the first task step then it need not be tested again at higher task steps. Instruction will begin at the lowest task step where physical assistance was required to get a response.

If the teacher moves down through the Task Sequence giving demonstrations paired with verbal cues and does receive a correct response at a lower level in the sequence she should try again to elicit the response with a verbal cue only. In this case the assessment might look like this:

	Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates on Free Play
1. Fast walk			✓ ✓	x x	
2. Fast walks with bent arms moving in opposition to legs			x x		
3. Runs with instances of non-support			x x		
4. Runs quickly, dodges obstacles			x x	x x	

The child responded to a demonstration with a fast walk but could not repeat the performance with a verbal cue alone.

Since a good number of the Target Skills have similar

verbal cues or demonstrations regardless of the Task Step that is being sought the teacher may simply use the verbal cue and demonstration on several trials and record the child's typical response in the appropriate box. The verbal cue 'run fast' may elicit a fast walk from one child and a mature run from another. Repeated demonstrations for each task are not required in these cases.

For some of the task steps teacher assistance is required as part of the competency. In the rope swing for example the first step is "holds on with hands while being swung". In this case the teacher has to assess the child's skill in holding on, not his ability to swing. 'Physical assistance' would mean that the teacher had to hold his hands on the rope while she swings him. At the next step the task focuses on locking his knees. 'Physical assistance' here would be in helping him keep the rope between his knees - he would be holding on to the rope entirely by himself. If he did it with a verbal cue at this task he would hold on and lock his knees when told to, but he would still require the teacher's push or pull to swing.

HOW TO CONTINUE

After three days of assessment the teacher should have completed the ten high priority skills for each child. At this point she may want to begin instruction on one of these skills and continue her assessment of the remaining

skills in all categories on subsequent days. If a child is unable to perform three or more of the high priority skills at any task step without physical assistance it is likely that the teacher's prescription will include two of these skills so it is quite fair to make that prescription at this point.

If, however, the student can perform most of these skills, even if it isn't at the target level, the remainder of the assessment may reveal some weaknesses that should receive attention. For these children with a broad, but shallow skill repertoire assessment should continue until all skills have been tested prior to prescription.

Throughout the assessment periods teachers should take note of any skills that are initiated in free play. These should be checked at the initiation level whether they were performed at the target skill level or at a lower task step. Some of the skills are highly sophisticated for very young children, but initiation of the lowest step in the sequence might be an indication that the target skill will be acquired without intervention.

RECOMMENDED EQUIPMENT

LOCOMOTOR SKILLS

open space of 20' length
stairs with a railing or near wall
benches or boxes of varying heights (3" to 36")
lines or tape on the floor
one rope or stick
mats or landing pads

PLAYROOM SKILLS

wagon
tricycles (of different sizes if possible)
scooters
trampoline
wide ramp
suspended vertical rope

PLAYGROUND SKILLS

playground slide
climbing apparatus with adjustable horizontal bars (24" high to 5' high)
swing or rope suspended in loop from horizontal bar
mats

BODY CONTROL SKILLS

climbing apparatus with vertical ladder
bench or beam (inclined)
boxes or benches (36" high)
mats

OBJECT CONTROL SKILLS

tennis balls or whiffle balls (not more than 3" in diameter)
bean bags (optional)
large light balls (not less than 8" in diameter)
plastic hockey sticks
plastic baseball bats with large head

INSTRUCTION

Teaching is the process in which instructional strategies are applied that have been particularly designed for a child or group of children. The specific model of strategies used in the PREP Program is congruent with other direct instructional programs designed for use with mentally retarded youngsters (Kysela et al., 1976, Martin et al., 1975; Wessel 1975).

There are basically four types of instruction that are used in the PREP Program. These differ in the degree of output given by both the teacher and the child. As a result, they are indicative of both the instruction used and the level of response demonstrated by the child. The levels of response are:

1. Physical Prompts

   Physical prompts include any kind of physical assistance in which the teacher actually touches the child's body or body parts. They <u>may</u> be preceded by a visual prompt and <u>should</u> always be paired with a verbal prompt.

   <u>Example</u>: The child is working on jumping down. Teacher puts child on box and holds both hands, pulling down so that child's knees bend. Teacher then pulls up on child's hands to lift him and holds on until child's feet are on the floor.

   <u>Example</u>: Child jumps off box of waist height and grasps

teacher's hands for landing.

Example: Teacher taps child's feet to initiate a jump down and says "Jump down".

2. Visual Prompts

Visual prompts include any kind of movement on the part of the teacher or a peer that does not involve physical contact with the child receiving instruction. They are generally accompanied by a verbal prompt.

Example: Teacher climbs onto box and jumps off saying, "Jump off the box".

Example: Teacher demonstrates the take off position for jumping down but does not jump.

Example: Teacher taps the floor to indicate where the child should jump.

3. Verbal Prompts

Verbal prompts are any words, sentences or sounds that tell the child to begin a response.

Example: Teacher says, "Bend your knees and jump down".

Example: Teacher says, "Jump down".

Example: Teacher says, "One, two, three, go!"

4. No Prompt

When a child responds without a prompt the skill is initiated in free play. In these cases there is no direct teacher interference.

Example: The child is standing on a bench and the

teacher places a hoop on the floor. The child jumps into the hoop.

Example: The child watches another child jump down and then climbs onto the box and jumps down.

Example: The child seeks out opportunities to jump down in free play environment.

Each instructional type is associated with a different level of learner response. The child performs more of the task by himself in each successive level and the amount of independence increases. It can be seen, therefore, that a range of prompts is available to gradually teach the child to initiate a given target skill in free play. The role of the PREP instructor is to assist the child in progressing along the task steps of a given target skill by decreasing or fading the amount of assistance provided to the child at each task step. The decreasing amounts of teacher assistance and subsequent increasing amounts of child independence is termed the Response Prompting Continuum (see Figure 1).

Each of these instructional types is described on the Target Skill Sheets for each task in the Task sequence. The teacher must use the appropriate one for each child. The target skill sheets differentiate between two types of physical prompts. A complete manipulation gives the child the greatest amount of physical assistance. When teachers use complete manipulation, they actually physically move the child's body through the desired response. A manipulative prompt is used when the child performs the response relying

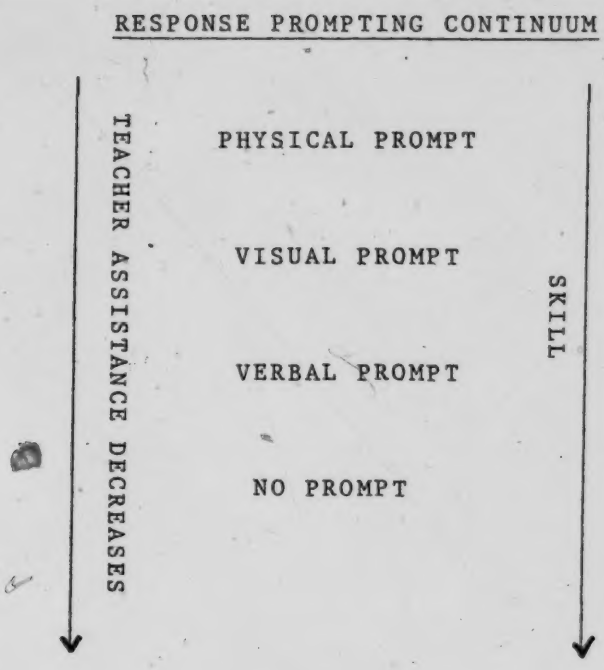


Figure 1. Response Prompting Continuum.

on the physical support of the instructor at some point in the response. This support may come at the beginning, at the end of, or in the middle of the response. Either the child or the instructor may initiate the prompt. A more complete discussion of the varying degrees of each of the levels of prompting will be provided in a later section.

The level at which instruction begins should be recorded on the Individual Student Profile so that the teacher knows where to start each time and also so that any change can be noted. It is often reinforcing to the teacher to know that after one week of instruction the child has moved from needing complete manipulation to requiring only a manipulative prompt.

During teaching, a verbal prompt should be paired with all prompts so that the child begins to associate the movement with the action word right from the beginning.

Individual Instruction in the PREP Program

Past experience in the use of task analyzed instructional sequences with mentally retarded children has demonstrated the importance of appropriate instructional behaviours, if optimal learning is to be achieved. The PREP Program suggests that the levels of instruction discussed earlier be viewed within a framework for individualized instruction.

The basic theoretical framework underlying the study of individualized instructional techniques was developed from human performance research on skill learning (Gentile, 1972;

Robb, 1972; Welford, 1968). Special information on early skill learning was also applied from recent developmental literature (Bruner, 1973; Wade, 1976). The observational techniques and research and design strategies used to study the instructional behaviors were based on applied behavioral analysis studies (Becker, Engelmann and Thomas, 1975; Gelfand and Hartmann, 1975).

On the basis of the above theoretical input, together with considerable empirical data, a model for the analysis of individual instruction was developed (Wall and Watkinson, 1978).

Some of the factors which have been identified in the PREP model can be separated into three major parts: pre-instructional factors include suggestions that should guide the instructor in the assessment and other preliminary procedures that facilitate gross motor instruction. Instructional factors include the analysis of the teaching learning situation and post-instructional factors outline appropriate methods of recording that should assist in the evaluation of pupil progress and program effectiveness. The focus of the present chapter is on teacher behaviors that are recommended for use in the instructional component of the PREP Program.

Phases of Gross-Motor Instruction

Three distinct phases of instruction have been identified in gross-motor learning situations: the pre-skill, skill

response and post-skill phases are indicated in Figure 2.

Pre-Skill	Skill response	Post-Skill
Conditions and behaviors that precede the skill response	The execution of the skill	Conditions and behaviors that follow the skill response

Figure 2. Phases of Instruction

The pre-skill instructional phase focuses on specific behaviors that may increase the likelihood of eliciting successful skill response phase is the evaluation of the degree of skill exhibited during the execution of a target skill. The major concern of the post-skill phase of instruction is the delivery of appropriate feedback information.

The Pre-Skill Phase of Instruction

The pre-skill phase of instruction basically involves physically preparing the child for the action response.

Obtain the Child's Attention.

The first step in an instructional session involves obtaining the child's attention. There is little point continuing with a session if the child is neither watching nor listening to the teacher. Initially, the instructor presents the child with an attention cue. For example, "Paul, look at me." (Pause) "Look" is the action word, specifying the desired response. The cue is followed by a pause which gives Paul time to organize a motor plan prior to executing the response. If during the pause the child

responds correctly the teacher continues with the pre-skill sequence. If, however, the child responds inappropriately the same attention command should be presented paired with a physical prompt (ie. gently grasp the child's chin to encourage eye contact).

Another method of obtaining attention could be to focus the child's attention on a peer who is performing the target skill. In this case the instructor might say "Look at Johnny climb the ladder. Would you like to climb too?"

Establish Ready Position.

After attention is obtained the instructor must often get the learner physically prepared for the action to come. This might involve having the child assume a starting position and making sure that he or she is ready for the skill response to follow. For example in preparation for a jump down the child must be standing on a bench or box and facing the space allocated for the jump (a mat). Prior to requesting a jump the teacher might say, "We're going to jump. Are you ready now?"

Present the Verbal Prompt.

Once the child is ready to respond the instructor proceeds by providing the verbal prompt. Following from the example above, the instructor would now say, "Jump down". The verbal prompt should always be followed by a short pause. The pause gives the learner the time needed to plan

and initiate a response. When necessary, a verbal prompt should be paired with an appropriate prompt from the response prompting continuum.

The Skill Response Phase of Instruction

The second phase of instruction is the actual performance of the skill. It encompasses what the child does and how much teacher assistance is provided as the skill response is executed. Given the conditions and behaviors in the pre-skill response phase, a number of different types of responses may result. The child may respond correctly, incorrectly or incompletely, or negatively.

The child has responded correctly when the specific skill is performed in a manner that conforms to the behavioral definition of the task step. An incomplete or incorrect performance indicates that the response has been attempted, but the execution of the movement pattern does not wholly conform to the behavioral requirements of the task step. The child has responded negatively when no attempt is made to meet the requirements of the task step. A negative response includes any physical behavior on the part of the child that is contrary and unrelated to the target skill and clearly shows non-cooperation.

An example of the above would be if the target skill to jump down has been selected for instruction and task step 2 (jumps down off box of shin height, one foot take-off, two foot landing) has been identified as an appropriate initial

task step; the verbal prompt "Ready (pause) jump down" (pause) would be presented. The child could respond correctly by jumping down with a one foot take-off and two foot landing. An incorrect or incomplete response would be if the child were to step down off the box (one foot take-off, one foot landing). A negative response would be indicated if the child were to walk away.

The Post-Skill Phase of Instruction

The third phase of motor instruction is the post-skill phase. Immediately following the child's skill response a number of sources provide the child with information feedback regarding the preceding performance. The feedback provided may be general or specific in nature, or ideally a combination of both.

General Feedback

General feedback is a broad category of post-skill information that involves providing the child with a general indication of how the instructor felt about the performance. This type of feedback is most commonly presented verbally in the form of approval or disapproval; occasionally it is presented physically. For example directly following a correct response to the requirements of the target skill to jump down task step 2, the instructor may reply, "Good, Tommy" and give Tommy a hug. "Good, Tommy" illustrates the use of general verbal feedback while the hug is a form of general physical feedback.

Both forms of general feedback provide the child with an indication of how the instructor felt about the preceding performance. A general indication of this nature does not provide the child with any information with regard to how the skill should be executed. To improve in a skill, the child must know which parts of the response were correct and how improvement could be made. For this reason, general feedback should be paired with more specific amounts of information regarding the previous response.

Specific Feedback

Specific feedback is a broad category of post-skill response information which specifies what the performance was, how well it was executed and how it ought to have been done. It is provided in qualitative and/or quantitative terms and is used for the purpose of improving or repeating a given skill response. Two major types of specific feedback have been identified: Knowledge of Performance and Knowledge of Results.

Knowledge of Performance

Qualitative information about the execution of the movement pattern has been termed Knowledge of Performance. It involves communicating to the child the degree of proficiency that was exhibited in the execution of a skill response. Knowledge of Performance can be provided verbally, physically or environmentally. It is of utmost importance that the child is able to understand the form of feedback

that is provided. For example if the child responds incorrectly by stepping down the instructor might reply, "No Tommy, feet together like this" and present a demonstration of what was required. If the child responds incorrectly by landing on his seat the physical environment would be providing him with an immediate source of qualitative knowledge of performance!

Knowledge of Results

Many motor skill progressions involve both qualitative and quantitative dimensions. The sequence for the target skill to run, for example encompasses a qualitative dimension, ranging from a fast walk to a mature run involving definite periods of non-contact with the ground; and a quantitative dimension of distance ranging from 10 to 20 feet. The child receives qualitative feedback in the form of specific knowledge of performance. Quantitative feedback should also be provided, in the form of specific knowledge of results. The instructor and the environment are the two major sources of knowledge of results.

The use of quantitative feedback can be illustrated in the performance of the target skill to run, task step 3. The physical environment could be arranged so that the child is given a destination of a favorite toy. Upon correctly performing the behavioral requirements of the task step the child would receive quantitative information from the environment, by having reached the destination and the

teacher might respond verbally "Good running Tommy; you ran all the way to the tramp, now you can go and jump".

In summary three distinct phases have been identified in the individualized instruction of gross-motor skills. The analysis of the phases has been used in a practicum course in teaching play skills to young moderately mentally retarded children conducted by the Department of Physical Education at the University of Alberta. The purpose of the analysis of individualized instruction is not to establish one standard for effective gross-motor teaching, but rather to encourage instructors to evaluate their teaching behaviors by considering some key factors that may help them improve their teaching performances.

REFERENCES

Becker, W. C., Engelmann, S. and D. R. Thomas. Teaching 2: Cognitive Learning and Instruction, Toronto: Science Research Associates, 1975.

Bruner, Jerome S. Organization of early skilled action, Child Development, 1973, 44, 1-11.

Gelfand, D. M. and D. P. Hartmann. Child Behavior: Analysis and Therapy, New York: Pergamon Press, 1975.

Gentile, A. M. A working model of skill acquisition with application to teaching. Quest, 1972, 17, 3-23.

Kysela, G. M., Daly, K., Hillyard, A., and McDonald, L. The Early Education Project: A home and school approach to the early education of handicapped children, Mental Retardation Bulletin, 1976, 4, 1, 29-35.

Martin, G., Murrel, M., Nicholson, C., Tallman, B. Teaching Basic skills to the severly and profoundly retarded: The N.I.M.R. Basic Test, Curriculum guide and programming strategy. Portage La Prairie: Vopii Press, 1975.

Robb, Margaret D. Task analysis: a consideration for teachers of skills, The Research Quarterly, 1972, 43, 3, 362-373.

Wade, M. G. Developmental motor learning. Exercise and Sport Sciences Reviews, 1976, 4, 375-394.

Wall, A. E. and J. Watkinson, The PREP Program: Curriculum materials and instructional strategies, Paper presented at AAHPER National Convention, 1978.

Welford, A. T. Fundamentals of Skills, London: Methuen, 1968.

Wessel, J. A. Programmatic Research Project in Physical Education for the Mentally Retarded Child in the Elementary School, Final Report. U.S. Department of Health, Education and Welfare, Office of Education, Bureau of Education for the Handicapped, 1975.

FREE PLAY INVENTORY

	STUDENTS								
LOCOMOTOR SKILLS									
1. Running									
2. Ascending Stairs									
3. Descending Stairs									
4. Jumping down									
5. Jumping over									
6. Hopping on one foot									
PLAYROOM SKILLS									
1. Pulling a wagon									
2. Riding a tricycle									
3. Sitting on a scooter									
4. Jumping on a trampoline									
5. Riding scooter down incline sitting									
6. Swinging on a rope									
7. Tummy riding on a scooter									
8. Tummy riding down incline on scooter									
9. Seat drop on trampoline									
10. Riding a wagon									
PLAYGROUND SKILLS									
1. Sliding down a slide									
2. Swinging on a bar									
3. Swinging on a swing									
4. Inverted hang									
5. Somersault around bar									
BODY CONTROL SKILLS									
1. Walking up an inclined bench									
2. Climbing on a box									
3. Ascending ladder									
4. Descending ladder									
5. Forward roll									
6. Backward roll									
OBJECT CONTROL SKILLS									
1. Throwing									
2. Kicking									
3. Striking with a stick									
4. Catching									
5. Bouncing									
6. Hitting with a bat									

PREP PLAY PROGRAM
DEPARTMENT OF PHYSICAL EDUCATION
UNIVERSITY OF ALBERTA

INDIVIDUAL STUDENT PROFILE

TEACHER'S NAME: _____

STUDENT'S NAME: _____

DATE: _____

LOCOMOTION

	Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates in Free Play
Running					
1. Fast walk					
2. Fast walk with bent arms moving in opposition to arms					
3. Runs with instances of non-support					
4. Runs quickly, dodging obstacles					
Ascending Stairs					
1. Crawls up stairs on hands and knees					
2. Ascends stairs marking time with support					
3. Ascends stairs alternating feet with support					
4. Ascends stairs alternating feet without support					
Descending Stairs					
1. Descends stairs on seat					
2. Descends stairs marking time with support					
3. Descends stairs alternating feet with support					
4. Descends stairs alternating feet without support					

	Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates in Free Play
Jumping Down					
1. Steps down off box of shin height					
2. Jumps down off box of shin height, one foot take-off, two foot landing					
3. Jumps down off box of shin height, two foot take-off and landing					
4. Jumps down off box of knee height, two foot take-off and landing					
5. Jumps down off box of hip height, two foot take-off and landing					
Jumping Over					
1. Steps over a line on floor					
2. Jumps over a line, one foot take-off and landing					
3. Jumps over a line, two foot take-off and landing					
Hopping on One Foot					
1. Stands momentarily on one foot					
2. Bounces on one foot without leaving floor					
3. Hops in place on one foot 3 times					
4. Hops forward three times on one foot					

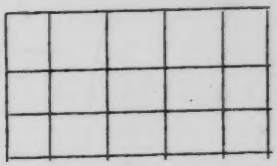
PLAYROOM SKILLS

	Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates in Free Play
Pulling a Wagon					
1. Pulls wagon around obstacles					
2. Pulls wagon containing object					
3. Pulls wagon with someone in it					
Riding a Tricycle					
1. Sits with feet on pedals while being pushed					
2. Pedals after initial push					
3. Pedals forward, 1/2 revolution, pedal pre-set					
4. Pedals forward from stopped position					
5. Steers tricycle around obstacles					
Sitting on a Scooter					
1. Sits on scooter while being pushed					
2. Sits on scooter, pushes with both feet					
3. Sits on scooter, pushes alternately with feet					
Jumping on a Trampoline					
1. Bounces on hands and knees					
2. Bounces without leaving surface					
3. Instances of feet leaving bed					
4. Jumps consecutively					

Resists Performance | Performs with Assistance | Performs after Demonstration | Performs after Verbal Cue | Initiates in Free Play

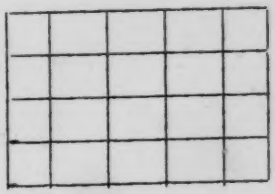
Riding Scooter Down Incline Sitting

1. Sits on scooter, travels after initial push
2. Sits on scooter, lifts legs after initial push
3. Pulls with arms to initiate movement



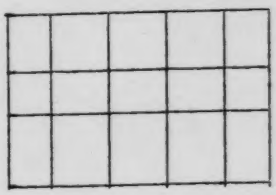
Swinging on a Rope

1. Holds on with hands while being swung
2. Holds on and locks legs while being swung
3. Swings on rope with initial push
4. Swings on rope



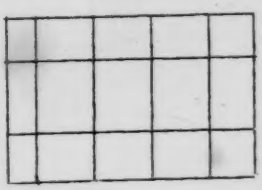
Tummy Riding on a Scooter

1. Lies on tummy on scooter while being pushed
2. Lies on tummy, pulls with both hands
3. Lies on tummy, pulls and glides with hands and feet off floor



Tummy Riding Down Incline on Scooter

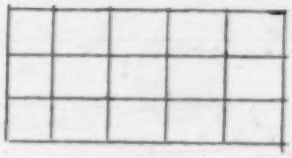
1. Lies on tummy, travels after intial push
2. Lies on tummy, lifts legs and arms after initial push
3. Pulls with arms to initiate movement



Resists Performing
Performs with Assistance
Performs after Demonstration
Performs after Verbal Cue
Initiates in Free Play

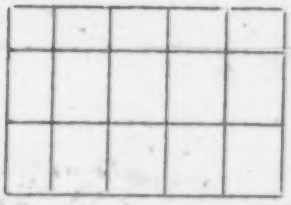
Seat Drop on Trampoline

1. Jumps, lands sitting on bed
2. Jumps, drops to seat, bounces back to feet
3. Drops to seat and continues jumping



Riding a Wagon

1. Sits in wagon being pulled
2. Kneels in wagon and pushes with one foot on floor while being pulled
3. Kneels in wagon and pushes with one foot on floor



PLAYGROUND SKILLS

	Resists Performing	Performs with Assistance	Peforms after Demonstration	Performs after Verbal Cue	Initiates in Free Play
Sliding Down a Slide					
1. Slides on seat					
2. Slides on tummy, feet first					
3. Slides on tummy, head first					
Swinging on a Bar					
1. Hangs from bar with hands					
2. Steps off (bench) to hand on bar					
3. Swings on bar					
4. Swings on bar, returns to (bench)					
Swinging on a Swing					
1. Sits on seat and holds on while being pushed					
2. Mounts swing and sits while being pushed					
3. Pumps swing					
Inverted Hang					
1. Hangs from hands and knees on parallel bars					
2. Hangs from hands and knees on single bar					
3. Hangs from knees on single bar					
Somersault Around Bar					
1. Rests with hips bent around bar					
2. Rolls over bar to sitting					
3. Rolls over bar to land on feet					

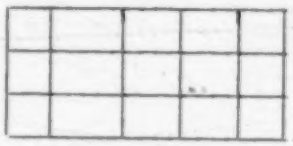
BODY CONTROL SKILLS

	Resists Performance	Performs with Assistance	Performs after Demonstration	Performs after Verbal cue	Initiates in Free Play
Walking up an Inclined Bench					
1. Lies on stomach, pulls up with hands					
2. Kneels, pulls up with hands					
3. Crawls up on hands and knees					
4. Crawls up on hands and feet					
5. Walks up					
Climbing on a box					
1. Climbs onto hip high box					
2. Climbs onto chest high box					
Ascending ladder					
1. Ascends 5 rungs, marking time					
2. Ascends 5 rungs, hands and feet alternately landing on same rung					
3. Ascends 5 rungs, hands and feet alternately landing on next rung					
4. Ascends 10 rungs, hands and feet alternately landing on next rung					
5. Ascends 10 rungs, alternating hands and feet simultaneously					
Descending Ladder					
1. Descends 5 rungs, marking time					
2. Descends 5 rungs, hands and feet alternately landing on same rung					
3. Descends 5 rungs, hands and feet alternately landing on next rung					

Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates in Free Play

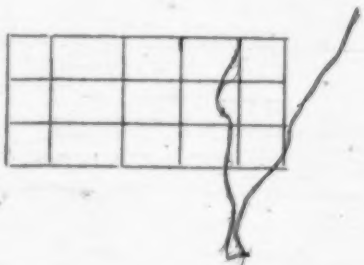
4. Descends 10 rungs, hands and feet alternately landing on next rung
5. Descends 10 rungs, alternating hands and feet simultaneously

Forward Roll



1. Rolls onto back
2. Rols into sitting position
3. Rolls into squatting position

Backward Roll



1. Rolls onto back from squat
2. Rolls over onto shins
3. Rolls over to crouch

OBJECT CONTROL SKILLS

	Resists Performance	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates in Free Play
Throwing					
1. Drops ball into basket					
2. Hurls ball using arm movement					
3. Throws ball using arm movement and shoulder rotation					
4. Mature throw					
Kicking					
1. Pushes ball with foot					
2. Kicks stationary ball, hip swing					
3. Kicks stationary ball, knee and hip swing					
4. Walks and kicks stationary ball					
6. Runs and kicks stationary ball					
Striking with a Stick					
1. Pushes a stationary puck with hockey stick					
2. Swings stick to hit puck					
3. Steps and hits puck					
Catching					
1. Traps rolling ball					
2. Traps ball dropped into arms					
3. Traps ball tossed between waist and chest					
4. Catches ball with two hands					

Resists Performing	Performs with Assistance	Performs after Demonstration	Performs after Verbal Cue	Initiates in Free Play

Bouncing

1. Drop ball, chase it and pick it up
2. Drop ball, and catch it with two hands
3. Drop ball, bounce it once and catch it
4. Drop ball, bounce it twice and catch it
5. Bounce ball several times and catch it

Hitting with a Bat

1. Pushes a suspended tether ball with bat
2. Hits a suspended tether ball with bat
3. Hits an oncoming tether ball with bat
4. Hits a tossed ball with bat

APPENDIX B

INSTRUMENTS FOR PROGRAM EVALUATION

INSTRUMENT 1.

PREP Play Program
Dept. of Physical Education
University of Alberta

PARENT - FEEDBACK FORM

1. Now that you have a good idea of what the PREP Program is, what would you like your child to gain by being involved in the program?

2. As a parent, what do you feel you would like to gain by being involved in the program?

3. As a member of your community, what do you feel the community can gain by having the program implemented in your town?

4. What target skills have you chosen to work on during the PREP Program?

5. Do you think that you will work on these skills at home as well as at the centre?

a) Yes b) No c) Not sure

General Comments: _____

_____

_____

_____

INSTRUMENT 2 .

PREP Outreach Project
Introductory Session
Parent-Feedback Form

1. How effective was the introductory video-tape in providing you with information on the need for a play program such as PREP?

   a) very effective b) effective c) of some value
   d) not effective

   Comments: _____

   _____

   _____

2. Do you feel that the presentation of this video-tape was helpful to you?

   a) very helpful b) helpful c) of some value
   d) should not have been shown

   Comments: _____

   _____

   _____

3. How effective was the introductory talk in providing you with an introduction to the PREP Program?

   a) very effective b) effective c) of some value
   d) not effective

   Comments: _____

   _____

   _____

4. Do you feel that the introductory talk was helpful to you?

   a) very helpful b) helpful c) of some value
   d) should not have been presented

   Comments: _____

   _____

   _____

5. How effective was the handout in outlining the basic features of the PREP Program?

a) very effective b) effective c) of little value
d) not effective

Comments:_____

_____

_____

6. Do you feel that the handout was helpful to you?

a) very helpful b) helpful c) of little value
d) should not have been provided

Comments:_____

_____

_____

7. At the end of the introductory session how did you feel about implementing the PREP Program in your community?

a) very positive b) positive-but want to know more about it c) hesitant-but willing to give it a try
d) negative

Comments:_____

_____

_____

INSTRUMENT 3.

ASSESSMENT WORKSHOP
January 18, 1979

PREP Play Program
Dept. of Physical Education
University of Alberta

EVALUATION OF PREP WORKSHOP

The purpose of this evaluation is to provide the PREP Program Committee with information that can be used in planning subsequent workshops. Please answer all questions. Any comments or constructive criticisms are welcome.

1. Do you feel the purpose of the session and the information given was clearly and logically organized and presented?

   a) well organized b) reasonably organized
   c) sections seemed unclear
   d) had difficulty following session.

   Comments:

2. How do you feel about the audio-visual materials used?

   a) very helpful b) helpful c) of some value
   d) seemed unrelated and should not have been shown.

   Comments:

3. How do you feel about the amount of material covered in this session?

   a) too much to process in the time allotted
   b) sufficient material in time allotted
   c) could have covered more material
   d) additional background material required to adequately understand presentation.

   Comments:

4. Did you find the handouts/written material helpful?

a) very helpful b) helpful c) of some value
d) should not have been given
e) would have liked additional written information.

Comments:

General Comments:

INSTRUMENT 4.

Instruction Workshop

PREP Play Program
Dept. of Physical Education
University of Alberta

EVALUATION OF PREP WORKSHOP

The purpose of this evaluation is to provide the PREP Program Committee with information that can be used in planning subsequent workshops. Please answer all questions. Any comments or constructive criticisms are welcome.

1. Do you feel the purpose of the session and the information given was clearly and logically organized and presented?

   a) well organized b) reasonably organized
   c) sections seemed unclear d) had difficulty following session.

   Comments:

2. How do you feel about the audio-visual materials used?

   a) very helpful b) helpful c) of some value
   d) seemed unrelated and should not have been shown.

   Comments:

3. How do you feel about the amount of material covered in this session?

   a) too much to process in the time allotted
   b) sufficient material in time allotted
   c) could have covered more material
   d) additional background material required to adequately understand presentation.

   Comments:

4. Did you find the handouts/written material helpful?-

a) very helpful b) helpful c) of some value
d) should not have been given
e) would have liked additional written information.

Comments:

General Comments:

INSTRUMENT 5.

PREP Outreach Program
Evaluation Form

PLEASE read the directions carefully before completing this form.

DIRECTIONS:

An important aspect of the PREP Program was the provision of assistance to you in the various stages of program implementation. Please indicate how you felt about the nature of the assistance that was provided to you in the following five components of the program. Using the rating scale provided circle the score that best represents your feelings in each component.

RATING SCALE: a) I received very little or no assistance.

b) Some assistance was provided.

c) I received too much assistance.

d) I received assistance whenever I needed it.

PROGRAM COMPONENTS:

1. In assessing my child on the target skills

   a. b. c. d.

2. In choosing target skills for instruction

   a. b. c. d.

3. In instructing my child

   a. b. c. d.

4. In recording weekly progress

   a. b. c. d.

5. In deciding to continue instruction or to choose another skill

   a. b. c. d.

Thank you.

INSTRUMENT 6.

PREP Outreach Program
Dept. of Physical Education
University of Alberta

PROGRAM EVALUATION

1. As a result of participating in the PREP Outreach Program, I feel that my child has:

   a) shown marked improvement in motor play skills.
   b) shown some improvement in motor play skills.
   c) shown little improvement in motor play skills.
   d) shown no improvement in motor play skills.

2. As a result of participating in the PREP Outreach Program, I feel that my child has:

   a) shown marked improvement in social play skills.
   b) shown some improvement in social play skills.
   c) shown little improvement in social play skills.
   d) shown no improvement in social play skills.

3. As a result of participating in the PREP Outreach Program, I feel that I (as a parent):

   a) have gained markedly in my ability to teach my child gross motor play skills.
   b) have gained some in my ability to teach my child gross motor play skills.
   c) have gained little in my ability to teach my child gross motor play skills.
   d) am no better able to teach my child gross motor play skills.

4. As a result of participating in the evening training sessions I feel that the skills I learned are:

   a) very helpful to me at the centre.
   b) of some help to me at the centre.
   c) of little help to me at the centre.
   d) of no help to me at the centre.

5. As a result of participating in the evening training sessions I feel that the skills I learned are:

   a) very helpful to me at home.
   b) of some help to me at home.
   c) of little help to me at home.
   d) of no help to me at home.

6. As a result of initiating the PREP Program in this community, I feel that:

   a) the community is now very aware of my child's needs.
   b) some community awareness has been fostered.
   c) little community awareness has been fostered.
   d) the community is no more aware of my child's needs than before the program was initiated.

7. What aspects of the program did you find to be helpful and why?

8. What aspects of the program did you find to be least helpful and why?

9. Would you like the program to:

   a) be continued to the end of June, then throughout the summer and next fall.
   b) be continued to the end of June and then started up again next fall.
   c) be terminated now.

10. What changes would you recommend to be made in the program in the future?

Thank you for your time and dedication.

The Program Staff

INSTRUMENT 7.

PREP Outreach Program
Dept. of Physical Education
University of Alberta

SELF EVALUATION

DIRECTIONS:

Please rate yourself as fairly and accurately as possible on the following questions. A scale from 1 to 4 is provided with (1) being the lowest or poor and (4) being the highest or excellent. Circle the rating you believe would best indicate your knowledge or ability before the PREP Outreach Project was initiated. Place a square on the rating you feel would be closest to your present knowledge or ability.

1. Knowledge of principles of individualized instruction.

   poor 1 2 3 4 excellent

2. Knowledge of how motor skills are learned.

   poor 1 2 3 4 excellent

3. Understanding of what to say or do before your child performs.

   poor 1 2 3 4 excellent

4. Understanding of what to say or do after your child performs.

   poor 1 2 3 4 excellent

5. Knowledge of how to record your child's performance.

   poor 1 2 3 4 excellent

6. Knowledge of how to assess your child and choose a target skill for instruction.

   poor 1 2 3 4 excellent

Thank you for your time and dedication.

The Program Staff

INSTRUMENT 8.

PREP Outreach Program
Feedback Form

Recreation Director

How do you feel about the manner in which you were initially approached with regards to the implementation of the PREP Program in your community?

a) very positive
b) positive
c) hesitant
d) negative

How do you feel about the level of communication that was maintained between the PREP Program staff, the parents and yourself?

a) very positive
b) positive
c) hesitant
d) negative

Do you feel that there is a need in your community for the continuation of the PREP Program?

a) definitely
b) probably
c) possibly
d) no

What role can you perceive the recreation department playing in the continuation of the PREP Program?

a) a very active role
b) an active role
c) an administrative role
d) no role

APPENDIX C

THE PREP OUTREACH PROGRAM

HOME SKILLS CHECKLIST

Child's Name: _____

Age: _____

Date: _____

PREP OUTREACH PROGRAM HOME
SKILLS CHECK LIST

HEAD CONTROL

1. Turns head from side to side when lying on back
   when sitting supported
2. Holds head steady while being carried
3. Lifts head when lying on stomach
4. Raises and turns head, lying on stomach
5. Turns head when name is called

SITTING

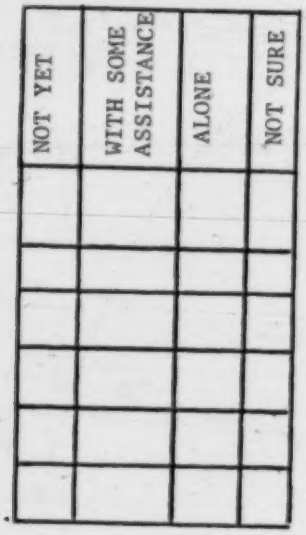
1. Sits with support in a chair
2. Sits with support on the floor
3. Sits on the floor, self supported
4. Sits on the floor, holding an object
5. Moves from lying on back to sitting
6. Moves from lying on stomach to sitting
7. Reaches for object from sitting position

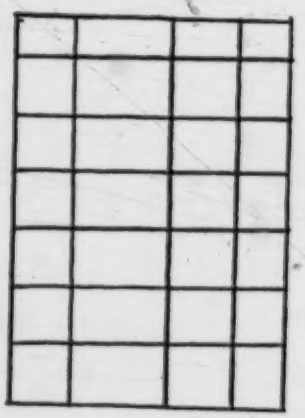
ROLLING

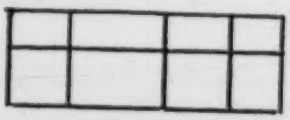
1. Rolls from stomach to back
2. Rolls from back to stomach

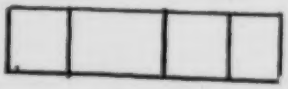
CREEPING

1. Holds chest up with support of arms with stomach on floor









NOT YET	WITH SOME ASSISTANCE	ALONE	NOT SURE

2. Reaches for object from position above
3. Crawls with stomach on the floor
4. Creeps with stomach off the floor
5. Reaches for object from creeping position
6. Creeps up and down stairs.

STANDING

1. Stands holding on to a chair
2. Pulls to a stand from a creeping position
3. Stands alone
4. Raises self to standing without support
5. Stoops to pick up object; recovers standing position

WALKING

1. Side-steps with furniture support
2. Walks alone
3. Carries objects while walking
4. Walks quickly
5. Pulls a wagon
6. Runs

CLIMBING AND JUMPING

1. Steps onto bottom step
2. Steps off of bottom step

NOT YET	WITH SOME ASSISTANCE	ALONE	NOT SURE

3. Climbs up and down stairs
4. Climbs onto a box (hip height)
5. Jumps down off bottom step
6. Jumps off a box (hip height)
7. Jumps on the floor
8. Jumps over a line or rope

SKILLS WITH OBJECTS

1. Drops things into a basket
2. Chases and picks up a ball
3. Traps a rolling ball
4. Kicks a large ball
5. Throws a ball
6. Catches a tossed ball

OUTDOOR SKILLS

1. Climbs a ladder
2. Slides down a playground slide
3. Pedals a tricycle if given a push
4. Pedals a tricycle alone
5. Steers a tricycle around obstacles